

Reducing Poverty in Brazil: Lessons Learned and Challenges for the Future



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Reducing Poverty in Brazil: Lessons Learned and Challenges for the Future

by

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August 2003

The author would like to thank Al Berry, Ricardo Paes de Barros, Francisco Ferreira, Marcelo Neri, Gus Papanek, Ana Peliano, Andre Urani, and Waldemar Wirsig for their comments, assistance, and encouragement.

The Pro-Poor Economic Growth Research Studies and Guidance Manual Activity, implemented by Development Alternatives, Inc. and Boston Institute for Developing Economies, is funded by the Bureau for Economic Growth, Agriculture, and Trade, U.S. Agency for International Development, under the terms of Contract No. PCE-I-02-00-00015-00, Task Order #2. This document represents Deliverable #10 under this task order.

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EXECUTIVE SUMMARY

Brazil's record of poverty reduction in the 1990s is impressive. Despite very slow growth, it has reduced extreme poverty by 13 million people and cut poverty by almost a quarter. Three factors were especially important contributors to this performance. The first was controlling inflation. The experience of Brazil since 1980 provides strong evidence that inflation hurts the poor. Rising inflation coincided with a sharp increase in both poverty and inequality after 1987 and the end of inflation in mid 1994 coincided with a 25 percent reduction in poverty.

Complementary to the relationship between poverty and inflation is an apparent relationship between poverty and the minimum wage. Brazil provides fairly strong evidence that, under some circumstances, raising the minimum wage can reduce poverty. The real value of the minimum wage was increased sharply after inflation was controlled in 1994 and that was followed almost immediately by a big reduction in poverty. It is not possible to say whether this sequence of events is due to the link between the minimum wage and wages for the unskilled in the formal and informal sector or whether it is because the benefits in many targeted safety net programs in Brazil are tied to the minimum wage. It is quite clear, however, that in Brazil the minimum wage is an important policy instrument in poverty reduction. There are two caveats here: first, the increase in the real minimum wage has to be sustainable. It cannot simply lead to an increase in other wages and prices. Second, the wage has to be at a level where increasing it does not push a significant number of workers out of the formal sector. Both of those conditions appear to have been met in Brazil in 1994-95.

The second factor responsible for reducing poverty was the non-contributory rural pension scheme implemented in the early 1990s. That program now spends about 1.2 percent of GDP and has had a big impact on poverty, particularly rural poverty. This program must be one of the main reasons why poverty rates fell in Brazil between 1990 and 1993 despite hyperinflation and falling per capita income. Brazil's experience with the non-contributory rural pension scheme shows that if targeted safety net programs are large enough they can have significant impacts on poverty.

A large number of other targeted programs, which together amounted to approximately one percent of GDP, were also developed in the 1990s. The most important of these were two safety net programs and pensions for the aged and disabled, both of which were linked to the minimum wage. While no one has estimated the impact of these programs on poverty, the fact that most of them were developed or expanded after 1995, a period when poverty was falling despite various macroeconomic crises and recession, suggests that they must have had a positive impact.

A cursory examination of social spending and the accompanying rising interest rates and falling investment seems to suggest that social spending may be hurting growth. Brazil is now spending over 20 percent of GDP on social programs alone. This represents 2.7 percent more than it spent in 1990. Even though the government has raised tax rates, social spending, the loss of inflation tax revenue and rising interest costs have increased the government deficit, soaked up private saving and crowded out investment. Overall, social spending

increases are partly to blame for the current fiscal disequilibrium. But, for the most part, targeted social spending is not the problem. Spending on contributory pensions (8.5 percent of GDP) and interest (4.2 percent of GDP) on the debt is. Brazil has a pressing need to control the cost of formal sector pensions and to reduce the interest cost of the government debt. If there is crowding out taking place, formal sector pension programs are more the cause of it than the poverty-targeted programs. The targeted programs have had a major positive impact on poverty at a cost of less than 2.5 percent of GDP.

Despite the progress on poverty that Brazil has made in the last decade, there are still a very large number of poor people in the country. To reduce poverty further, the most important single action the government could take would be to find a way to reach a higher and more sustainable growth rate. We estimate that each percentage point increase in the growth of income per capita will reduce the number of poor by at least 250,000 persons per year while at the same time helping to alleviate both the employment and fiscal problems facing the country.

Beyond attaining higher growth, a number of things would help to make growth more favorable to the poor. Most of them depend on the specific characteristics of the poor population in Brazil. Since 70 percent of the indigent and 55 percent of the poor live in the North and Northeast, it is clear that special attention has to be paid to this region, particularly its rural component. Programs should be centered on poverty-targeted investments that will help the poor and increase the growth rate at the same time. Given Brazil's fiscal problem, the Northeast will have to grow its way out of poverty, rather than temporarily solve poverty through transfers. It can do this through investments in rural infrastructure and other activities that crowd in private investment. This should increase the growth rate of the region and provide employment that will, in turn, increase the income of the poor in the short run and raise their productivity in the long run.

Even more money and attention must be paid to education and health. Much has been accomplished in the 1990s, but Brazil and particularly the Northeast has one of the lowest completion and retention rates in the region. Some of the money saved by a reform of the pension system should be devoted to education, particularly primary and secondary education.

Finally, given the skill level of the labor force and the high level of unemployment, priority should be given to investment projects such as roads, land reclamation, buildings and irrigation all of which require a lot of unskilled labor in their construction. The government should also make sure that its policies do not harm small-scale agriculture because it, like construction, is a big user of unskilled labor.

INTRODUCTION

Before 1980, Brazil was one of the world's most flagrant examples of inequitable growth. Poverty had fallen in the 1960s and 1970s, but mainly because the economy had grown so rapidly. The recent period is completely different. In the 1980s, thanks to debt crises and rising inflation, Brazil did not grow at all and poverty actually increased. Growth resumed in the 1990s, but rather than rapid growth bringing very little poverty reduction as in the 1970s, the country grew quite slowly yet reduced poverty quite markedly. It accomplished this with very little change in the usual measures of income distribution. Indeed, from 1992 to 1996 poverty and indigence fell sharply even though inequality was increasing at the same time. This performance is all the more impressive when compared with the rest of Latin America. Brazil cut its indigent population by 13 million people between 1990 and 1999. Indigence in the rest of Latin America grew by over nine million over the same period. The picture is roughly the same for total poverty. Despite the same growth problems faced by the rest of the region, Brazil managed to reduce poverty while the rest of the region did not.

How was this done? One objective of this study is to look more closely at the history of poverty and poverty alleviation efforts in Brazil to answer precisely this question. We want to see what Brazil did that permitted the relatively rapid reduction of poverty, given the slowdown in growth, and what can be done now to extend the progress that has been made. We also want to address the question of whether the success in poverty reduction in the 1990s is at least partially responsible for the slowdown in growth. Did government spending on poverty reduction crowd out the private investment that would have permitted the country to grow more rapidly and perhaps reduce poverty more rapidly?

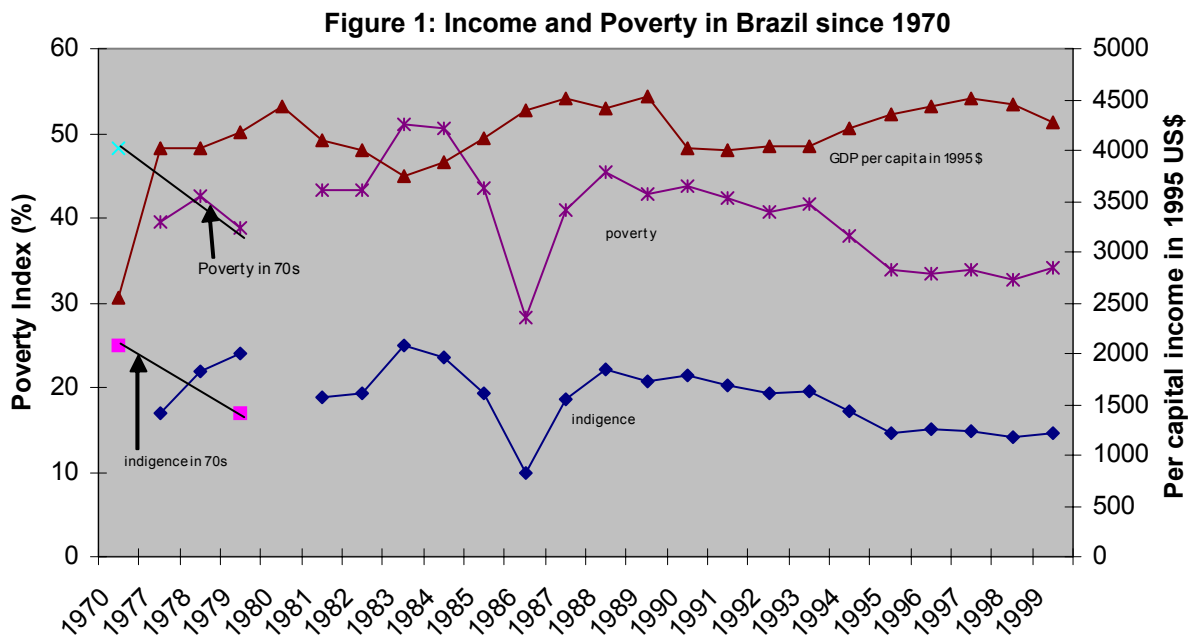
We will start in section one of the paper with a presentation of the historical data on income per capita, poverty, indigence and inequality. Since 1980, Brazil has suffered from a number of severe macroeconomic shocks, including high inflation, price and wage controls, balance of payments crises, and severe recession. The country also applied many of the reforms of the so-called "Washington consensus." Section two attempts to sort out and quantify the impact of these changes on the levels of poverty since 1990. Section three then presents a profile of the poverty population and a discussion of the problem of key poverty subgroups—the rural and urban poor and the regional pockets of poverty. In an attempt to determine which programs or the external events were responsible for the good record of poverty reduction, the fourth section examines social spending and the key poverty-targeted programs implemented under the Collor and Cardoso administrations. The next section contains recommendations of policies to continue the progress made in the 1990s on poverty reduction. The final section presents the conclusions.

SECTION ONE: TRENDS IN POVERTY SINCE 1970

Appendix Table 1 presents time series data on poverty, indigence and inequality in Brazil since 1970. Each of the columns is internally consistent and comparable across time in the sense that each source uses a single poverty line corrected for changes in the cost of living

due to inflation over time and a consistent methodology for correcting income in the household survey for errors of underreporting. Therefore, each column can and will be used to identify trends in poverty by decade and over time.¹ These data will enable us to get more of an idea of the impact that macroeconomic shocks and other important changes in conditions have on poverty. The table also shows the poverty gap index (P1).² Finally, the table reports the Gini coefficient, measuring the distribution of household income per capita.

Figure 1 gives a visual picture of trends in poverty, indigence and income since 1970. The first thing to notice is the catastrophic decline in growth performance since about 1980. Output per capita grew at 5.6 percent per year between 1970 and 1979 and at 4.2 percent per year between 1950 and 1980. Brazil was one of the great postwar growth success stories during those years. The years after 1980 are another story altogether. For the last twenty years Brazil has struggled with hyperinflation, orthodox stabilization, economic reforms and rising indebtedness as it attempted, so far unsuccessfully, to get back to something even close to the rapid growth it used to enjoy. Any discussion of poverty reduction has to confront this deterioration in economic performance.



Source: CEPAL (2001); Paes de Barros, Henriques and Mendonça, (2000).

¹ We relied on two sources for this data. We used the Economic Commission for Latin America (CEPAL) figures now published annually in *Panorama Social* for decadal observations and rural and urban poverty estimates. In addition, since 1977 Brazil has produced an annual household survey (PNAD), which has been analyzed by Ricardo Paes de Barros. He has periodically published the yearly estimate of poverty and indigence shown in the table. See Paes de Barros, Henriques and Mendonça (2000).

² P1 is a measure of the gap between the average income of the poor and the poverty line. It reflects changes in income among the poor even if there is no change in the number of poor people.

As we would expect, poverty and indigence both fell quite sharply in the 1970s, which represented the last decade of Brazil's rapid growth (Figure 1). Both then rose between 1979 and 1983 when Brazil was forced into recession by a severe balance of payments and foreign debt crisis that were the aftermath of excessive borrowing during the 1970s. This was followed by an extremely sharp reduction in poverty during the short recovery in the middle of the decade, climaxed by the first Brazilian attempt to control inflation with price and wage controls. When that attempt failed, Brazil entered a long and difficult period of orthodox and unorthodox stabilization and slow growth. Poverty rose sharply between 1986 and 1988, but then it started to decline even though per capita income simultaneously fell.

A second notable feature of this period is the decline in poverty that began in 1988 and continued more or less each year until 1998, with a particularly rapid burst between 1992 and 1995 when the economy finally began to recover from recession. There was little further progress in poverty reduction after 1995 as the recovery petered out and the economy fell back into recession in 1999 (the third since 1980). But looking at the decade of the 1990s as a whole, poverty has fallen markedly in spite of very modest growth. In fact, between 1989 and 1998 (both years of peak output before a recession) poverty fell by almost one-third despite the fact that income per capita was lower in 1998 than it had been nine years earlier. Thus, the 1990s are qualitatively different than previous decades. Previously growth, or the lack of it, was the main determinant of poverty trends. In the 1990s, however, something else was going on it was definitely positive for poverty.

It is important to note that the trends in extreme poverty or indigence mirror those in poverty. When the economy grew, it was not just those around the poverty line whose income increased. Those further down the income pyramid benefited too as can be seen by the trends in indigence and also in the P1 poverty gap measure reported in Appendix Table 1. The fact that it moves with the poverty and indigence indexes is a confirmation that the effects of growth or recession are generalized throughout the poverty population.

Finally, a curious feature of the Brazilian poverty and distribution data since 1977 is the extreme stability of the inequality measure, the Gini coefficient. Other than the late 1980s, the Gini has stayed between .58 and .60 for the last twenty years, despite periods of hyperinflation, recession, and significant increases in transfers. Various hypotheses have been advanced for this phenomenon. Rapid growth in the 1960s and 1970s increased inequality to the point where Brazil had one of the most unequal distributions in the world. Subsequent macroeconomic events and policy measures have not changed inequality except in the short run between 1987 and 1992 during a period of rising inflation.

Trends in other Welfare Indicators in the 1990s: As we have seen, the 1990s saw significant progress in poverty reduction measured in terms of income. For other welfare dimensions such as school attendance, infant mortality, malnutrition or stunting, child labor, access to potable water, and electricity there were also significant improvements in the 1990s. Infant mortality fell by a third, the fraction of illiterates over 15 fell from 18 percent to 13 percent, and child labor fell from 18 percent to 12 percent. Malnutrition in children under five fell from 15.7 percent in 1989 to 10.5 percent in 1996 (IPEA 2002, p. 24-25). Indeed, the absolute number of illiterate children reported in the 2000 census fell for the first

time, making it reasonable to expect that as these young better educated cohorts become adults, illiteracy will over time virtually disappear in Brazil. All of these are important improvements, which were the result of Brazil's significant investments in social spending and social assistance.

Trends in Rural and Urban Poverty: Look now at the trends in rural and urban poverty and in total and extreme poverty, considered separately. In Table 1, we have computed the percent change in these different poverty subgroups over the three decades. The underlying poverty levels upon which these changes are based come from the data in Appendix Table 1. What we are calling extreme poverty is the proportion of individuals or families below the indigence line.

Table 1: Percentage Change in Poverty by Location and Severity of Poverty

Decade	Total poverty			Extreme poverty		
	Total	Urban	Rural	Total	Urban	Rural
1970s	-0.2041	-0.1429	-0.1507	-0.3200	-0.3333	-0.1667
1980s	0.1026	0.3000	-0.0968	0.0588	0.3000	0.0857
1990s	-0.2188	-0.2015	-0.2167	-0.4487	-0.4431	-0.4121

Source: Appendix Table A-1.

In both the 1970s and 1990s, poverty fell by about the same amount in both the urban and the rural sector, while extreme poverty (the proportion of individuals or families below the indigence line) fell a good deal faster. Thus, in both of these decades the progress in combating poverty extended to both the rural and the extremely poor. To check that these large reductions in national poverty rates were not just the result of rural to urban migration, we calculated the hypothetical poverty rate in 1999, with 1990 population weights. Poverty would have fallen in the 1990s from 48 percent to 38 percent (i.e. 10/11 of the observed reduction from 48 percent to 37.5 percent) even without any rural-urban migration. Migration was thus not a very important source of poverty reduction in the 1990s.

The 1980s were different. In that recession decade, rural poverty fell while urban poverty increased by almost one third. Extreme poverty, however, increased in both sectors. Part of the reduction in the rural poverty occurred because of rural-urban migration and represents a transfer of the poverty population to the urban sector. In both the 1970s and the 1990s, the urban sector was able to absorb these migrants while reducing poverty at the same time. It was unable to do the same in the 1980s.

SECTION TWO: DETERMINANTS OF CHANGES IN POVERTY

Consider first the changing relationship between growth and poverty reduction over the last three decades as shown in Table 2. In the 1970s, income per capita grew rapidly, but poverty fell relatively slowly. In the 1980s, income per capita fell and poverty increased. In the 1990s, despite the recovery from the recessions of the 1980s, income grew very slowly (.7 percent per year) and yet poverty fell twice as fast as it had in the 1970s. We can summarize

the relationship between growth and poverty reduction by the poverty elasticity. It is defined as the percentage reduction in poverty that one gets from each percent of growth in income per capita. Thus, in the 1970s the poverty-income elasticity was the ratio of yearly poverty reduction and yearly income growth or $-.445 (-.025/.056)$.

Typically, the poverty-income elasticity varies between -1 and -2. But in Brazil in the 1970s, the elasticity was only $-.445$. Growth made much less difference to the poor than it has in other developing countries because most of the benefits of growth accrued to the non-poor, which can also be seen in the rise in inequality over the decade. In sharp contrast, the poverty elasticity was far larger than average in the 1990s. Poverty fell far more than one would have expected given the slow rate of growth of the overall economy. The so-called lost decade of the 1980s was a period in which there were two recessions (1981-83 and 1987-91) and a decline in per capita income overall. Not surprisingly, poverty increased. But what is interesting and quite typical of the experience of other countries is the increase in the poverty elasticity. What that increase tells us is that poverty tends to fall faster in recession than it rises in recovery. Thus, if a country goes through a recession and then recovers to its previous level of per capita income it is likely to have more poverty at the end of the cycle than it started with. This was true of Brazil in the 1980s. For the poor, avoidance of macroeconomic instability is even more important than it is for everyone else.

Table 2: Poverty and Income (National)

Decade	Poverty Elasticities	Growth of Income	Growth of Poverty	Yearly Growth Rates	
				Income	Poverty
1970s	-0.445	0.6364	-0.2041	0.0562	-0.0250
1980s (79-90)	-2.781	-0.0347	0.1026	-0.0032	0.0089
1990s	-4.055	0.0617	-0.2188	0.0067	-0.0271

Source: Poverty data taken from Appendix Table A-1, income data from the World Bank electronic data base.

To more exactly quantify the relationship between income and poverty we ran a simple regression between the observed level of poverty and per capita income for the years 1977-99. We present the results in Figure 2. For the period as a whole, the elasticity of poverty with respect to income is just over -2. However, the fit of the regression is not particularly close. Most of the observations in the 1980s lie above the regression line, while the observations in the 1990s lie below it. The pattern for the 1980s confirms the idea that recessions more than proportionately affect the poor.

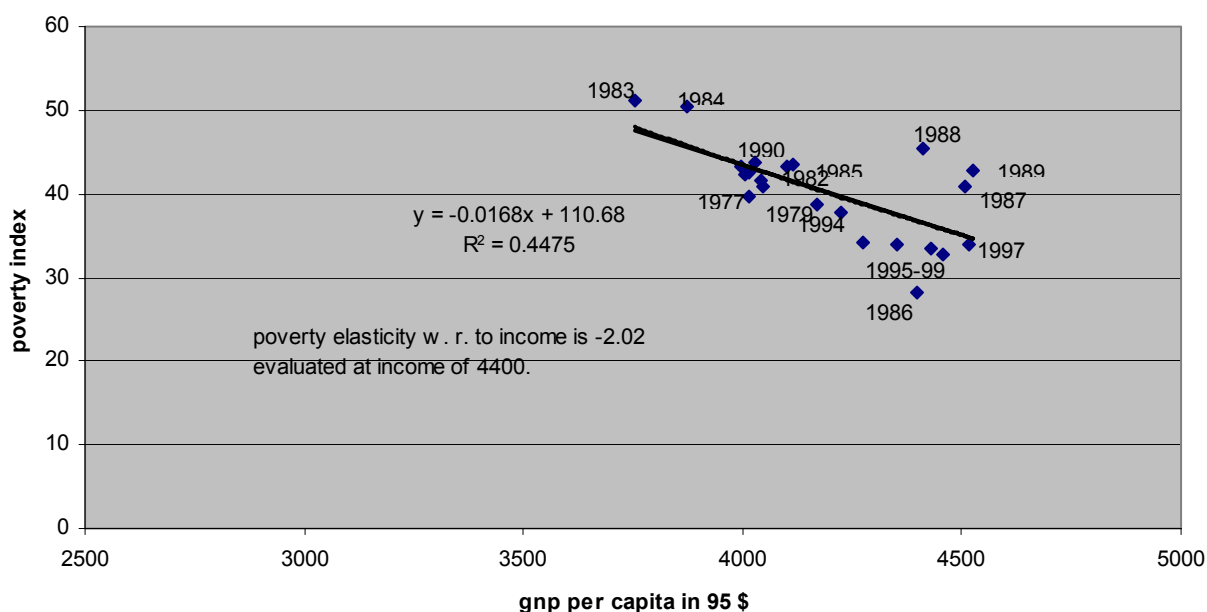
For the 1990s, we re-ran the regression with a dummy variable for the 1990s observations. It gave the following result:

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>
Intercept	105.9587	16.20263	6.539599
income	-0.015267	0.003888	-3.926949
dummy	-3.809074	1.730759	-2.200811

The 1990s dummy is negative and significant and tells us that the level of poverty on average will be 3.8 percentage points lower for the same level of income in the 1990s than it would be in the rest of the sample. The poverty elasticity measured at the mean declines slightly to -2.02. The regression confirms that the 1990s were more favorable to the poor than previous decades. That is, more of whatever increase in income there was went to the poor.

<i>Regression Statistics</i>	
Multiple R	0.748151
R Square	0.559731
Adjusted R Sq	0.513386
Standard Error	3.976246
Observations	22

Fig. 2: Poverty and Income 1977-98



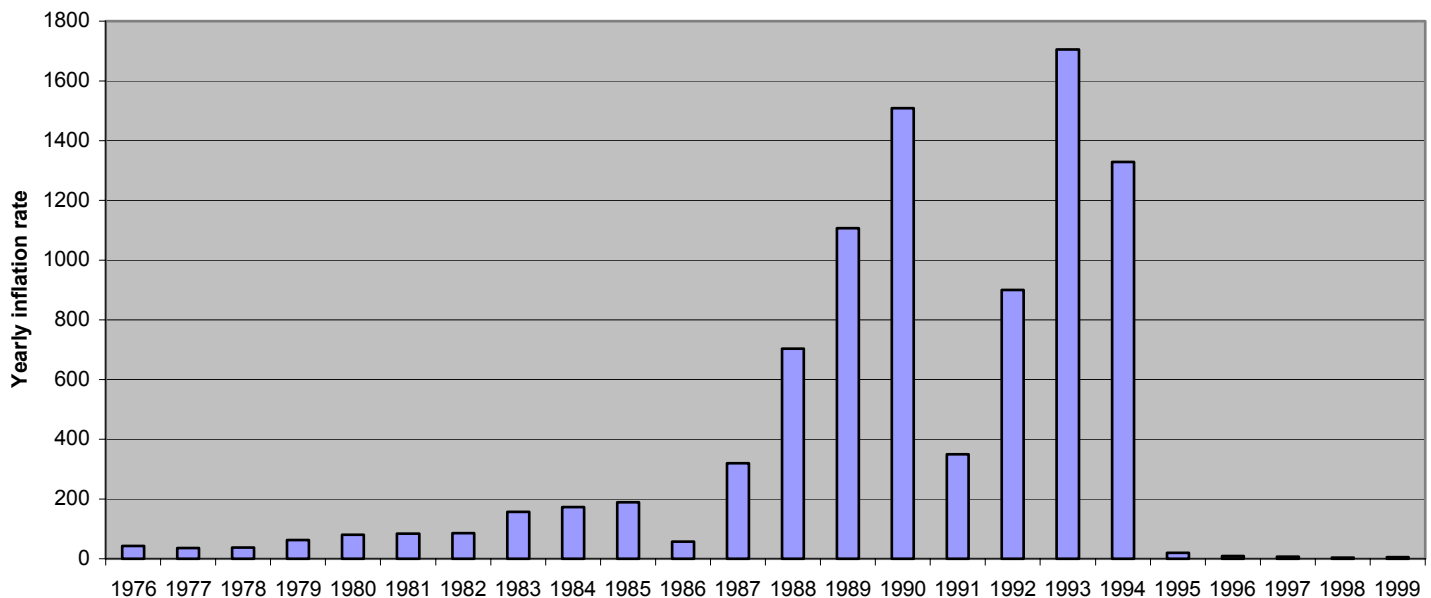
What do the historical data tell us about the relationship between poverty, growth and distribution? The answer seems to be that it depends on the period. In 1986 and 1992-96 growth (and the control of inflation) dominates. In 1986, income per capita grew by 6 percent, the Gini coefficient fell by only one percentage point, yet poverty fell by 35 percent and indigence by an even greater percentage. Similarly, in 1992-96 income per capita increased by 9 percent, and poverty fell by 18 percent even though the Gini coefficient

actually rose by two percentage points. In contrast, between 1987 and 1992 movements in inequality dominated. Between 1987 and 1989, income per capita was essentially constant, but poverty increased with the sharp increase in inequality. Even though per capita income fell between 1989 and 1992, so did poverty thanks to a decline in the Gini coefficient from .64 to .58. After 1996, the historical evidence is not very helpful in separating the impact of either factor on poverty since there has been very little growth and no change in the distribution, and only a very slight increase in poverty (and a slight reduction in indigence).

Inflation Control, Fiscal Policy and Poverty Reduction

Macroeconomics since 1980 in Brazil has been dominated by three features all of which are relevant to efforts to reduce poverty. The first is the long and ultimately successful effort to control inflation; the second is the rise in government spending financed to a large extent by borrowing; and the third was fiscal decentralization under the new constitution of 1988.

Figure 3: Yearly Inflation 1976-99



Source: Getulio Vargas Foundation data series.

Inflation had never been entirely controlled during the 1970s but it only became a serious policy problem after 1980 when the country was forced into a structural adjustment by the first of a series of debt crises (see Figure 3). The next twelve years were dominated by a six separate plans to stop inflation, each temporarily successful and all but the last, the Plano Real in 1994, were ultimately failures. The first of the plans was the Cruzado plan in 1986. It combined a temporary price freeze, a rise in real wages and an increase in government spending and produced the sharpest decline in poverty in the entire period since 1970. But the plan exploded after only a year. Inflation accelerated and the search for a method to bring

inflation under control continued. The government tried three other programs in the late 1980s, the last after inflation had reached a peak of 80 percent per month under President Collor in 1990. In each case, the government tried unsuccessfully to accompany its inflation plan with contractionary demand-side restrictions. But in each case it failed. It was only with the Plano Real implemented in July 1994 that inflation was finally brought under control. Among other features, the Plano Real de-indexed the economy and imposed a crawling peg exchange rate regime. That removed two important inertial elements that had made inflation control so difficult during the 1980s. But another factor was the favorable external conditions facing Brazil, in particular the access to external borrowing. Essentially, external borrowing made it possible to avoid any fiscal contraction and kept the exchange rate from contributing to inflationary pressure. Government spending and government deficits both rose sharply, financed by borrowing, both domestic and foreign. But the cost was an explosion of government debt and a rising burden of interest costs. The external debt grew from \$121 billion in 1990 to \$237 billion between 1991 and 2000. Debt service rose from \$8.3 billion per year in 1991 to over \$53 billion in 2000 (World Bank, 2002, p. 17). The current account went from being just about in balance in 1991 to having a \$24 billion deficit in 2000.

Examining this from a national accounts perspective highlights the fact that in the 1980s the government financed a significant fraction of its expenditures by the inflation tax. With the elimination of inflation after 1995, the government replaced forced domestic saving through the inflation tax with foreign saving or external borrowing (Cysne, pp. 35, 44). The government gambled that it could simultaneously increase spending and control inflation by using foreign saving and an increasingly overvalued exchange rate. The government deficit needing to be financed rose to over 4 percent of GDP in 1995-97 (Cysne, p. 35). It was a risky strategy since it meant that the country was increasingly vulnerable to any foreign shocks that might jeopardize its continued access to foreign borrowing. Unfortunately, there was not just one, but rather a number of foreign shocks, including the tequila crisis in 1996, the Russian and East Asian crisis in 1998, and finally the recent Argentine crisis. This was disastrous because Brazil was essentially betting that it could ride out the adjustment by external borrowing and paying higher real interest rates on outstanding debt. It meant a very big jump in the carrying costs of the debt, and when the country was forced to abandon the crawling peg and devalue in January 1999, a rise in the burden of dollar denominated debt.

This history of inflation, inflation control and fiscal policy is relevant to the lessons to be drawn for poverty reduction strategies in at least two ways. First, there is the direct relationship between government spending on social services and safety nets and poverty. To the extent that this spending grew in the 1990s, it helps explain the fall in poverty that occurred over the decade. But at the same time, if the increase was financed by foreign borrowing instead of taxes, one cannot view the poverty reduction as permanent. It could be eroded by renewed inflation or by additional taxes in the future. The additional spending itself may have to be curtailed because of the fiscal imbalance. We will look further at these questions in a moment.

The second set of lessons has to do with the relationship of inflation to poverty through the government control of the minimum wage; the link between the minimum and the average wage; and/or the tax on money and contractionary demand management as a necessary

component of inflation control. A casual examination of the historical data on inflation and poverty seems to suggest that inflation hurts the poor. Looking back at Figure 1, we find that there are two periods of sharply falling poverty 1986 when the Plano Cruzado temporarily reduced the inflation rate from almost 20 percent per month to less than 5 percent, and then between 1993 and 1995 when the Plano Real finally brought inflation under control. There are also several periods when rising inflation coincided with quite rapid increases in poverty, e.g. 1981-84 and 1986-88. But the evidence is actually more ambiguous: poverty also fell between 1988 and 1993, which was a period of accelerating inflation.

Theoretically, inflation could affect the distribution of income and poverty through either the inflation tax on money or other assets or through its effect on real wages. Since the poor have very few financial assets subject to the inflation tax, the main channel by which inflation affects poverty must be through wages and employment. In the formal sector where workers are under some sort of contract, wages are set and fixed between adjustment periods. If there is inflation, the average value of the wage over the life of the contract will be negatively related to the inflation rate even if there is a full adjustment for past inflation each time the wage is readjusted. This factor is not quantitatively important when the inflation rate is low, but it is when inflation reaches 20-80 percent per month as it did in Brazil in the early 1990s. There is no theoretical reason why unskilled workers would be more affected by this than skilled workers, but since we are looking at poverty and not distribution, this feature of contracts is relevant.

It is difficult to get a more precise estimate of the effect of inflation on poverty using yearly data partly because of the small number of yearly observations and partly because there were very large fluctuations in the inflation rates over the course of many of the years. That makes the time of the annual survey on which the poverty estimates are based and when wages are adjusted a critical element. To avoid these problems Amadeo and Neri (2000) used a monthly survey in the main metropolitan areas for the period 1980 to December 1996. The survey links earnings with family income per capita and permits a far more exact connection between wage adjustments, monthly inflation rates and the poverty rate. Regressing per capita income by decile on the monthly inflation rate, the unemployment rate and the minimum wage, Amadeo and Neri found that the negative effect of inflation on incomes was significantly bigger for low than high income households. That is, inflation widened income differentials and income inequality. The minimum wage had exactly the opposite effect. Rising minimum wages tended to increase average incomes in all deciles, but the effect was almost twice as big in the bottom deciles as it was in the top (Amadeo and Neri, 1998, p. 225).

To directly estimate the effect of these variables on poverty, Amadeo and Neri established three different poverty lines, and calculated the monthly poverty levels corresponding to each over the period between 1980 and 1996. Results of their regression to estimate the impact of inflation, unemployment and the minimum wage on the monthly level of poverty defined in each of these three ways are displayed in Table 3.

Table 3: Poverty Incidence and Inflation

Poverty Line	Low	Medium	High
Rate of Inflation	0.018	0.017	0.013
	(3.32)	(4.15)	(4.34)
Unemployment	0.377	0.262	0.176
	(8.55)	(7.95)	(7.59)
Minimum Wage	-0.434	-0.305	-0.219
	(-11.45)	(-10.74)	(-11.02)

Source: Amadeo and Neri (1998), p. 226. Note that figures in parentheses are t statistics. Constants and dummy variables were omitted.

All levels of poverty are positively (and highly significantly) related to inflation and negatively related to the minimum wage, with the effects bigger the lower the poverty line. That means that the poorer a family is the more it is affected by changes in either the inflation rate, the unemployment rate or the minimum wage. These results persuasively demonstrate that inflation represented a very severe tax on the poor and that its successful control in the mid-1990s must have been an important factor in the reduction in poverty that occurred during that same period.

When thinking about the relationship between inflation or the minimum wage and poverty and when evaluating historical evidence, it is important to distinguish between anticipated and unanticipated inflation and between the short and the long run. Suppose, for example, that there is a sudden and unanticipated acceleration of inflation. In the short run this is likely to reduce the real wage across the board and possibly cause an increase in production and employment. Poverty will either rise or fall depending on whether the increase in employment is more or less than the reduction in real wages for poverty households. But this is only the short run response to unexpected inflation. If workers respond to the rise in inflation by raising their wage demands to offset the inflation, real wages and employment will return to their previous levels and the apparent relationship between inflation, the minimum wage and poverty will disappear. Two points are relevant here. First, if there is an observed relationship between inflation and any real variable such as employment or poverty, it is probably because the inflation was unexpected. Second, using historical evidence to establish the relationship is inherently ambiguous because one can never be sure whether the observed inflation rates were expected or unexpected.

The same argument about the use of historical data can be made for the minimum wage. Here the distinction is not between expected or unexpected; rather it is between the short and the long run. If the government raises the nominal value of the minimum wage in the hope of raising living standards for the poor, one may observe a short run reduction in the level of poverty because wages do, in fact, increase. But that increase may not be sustainable. Suppose that the increase in labor costs causes a subsequent increase in wage demands by the rest of the labor force as suggested by the econometric results in a recent Camargo-Neri paper (1999). As a result, firms may then be forced to increase their prices. If that occurs real wages return to their initial level and the real income gains by the poor disappear. Thus, to establish that an increase in the minimum wage has a positive effect on poverty that is relevant for policy, it is not enough to observe a fall in poverty after the wage is increased,

rather the changes have to be sustainable. That is, the changes in the real wage and in poverty that follow from the change in the minimum wage have to be sustained over a significant period of time.

The distinction between a temporary and a sustainable or permanent increase in the minimum wage is particularly relevant in Brazil. The monthly data used by Amadeo and Neri allow one to track the changes in the minimum wage and poverty month by month. Up to the Plano Real, which took effect in July 1994, a graph of the real value of the minimum wage looks like the teeth on a saw, with the real value rising each time there is an adjustment only to be eroded away by subsequent inflation. The 1994-95 stabilization, however, was different. Inflation dropped sharply from about 45 percent per month in July to 2.4 percent in September. The government then raised the minimum wage in two steps: it increased it by 10 percent in September 1994 and then by 43 percent in May 1995 (Amadeo and Neri, 2000, p. 231). There was an immediate sharp decline in poverty. According to their estimates, severe poverty fell 23 percent and moderate poverty fell 9 percent between September 1994 and September 1995. What is equally relevant is that the increase in the real value of the minimum wage was sustained and so were the reductions in poverty. They were not eroded away by subsequent inflation, as had been the case in all the prior attempts to control inflation.

In a recent paper, Foguel, Ramos and Carneiro (2001) use econometric techniques to examine the link between the minimum wage, formal and informal sector employment, and poverty. Using monthly data for the period 1982-99, they find that wages in both the formal and informal sector are positively related to the minimum wage and the elasticity of average informal sector wages are higher than formal sector wages. They also find that increasing the minimum wage shifts employment from the formal to the informal sector, which tends to offset the gains in income of those workers who retain their formal sector jobs.

Another important reason why poverty could be related to the real value of the minimum wage in Brazil is that the Constitution of 1988 mandated that government pension and disability payments be equal to the minimum wage. In 1992, when Brazil finally implemented these new legal obligations there was a significant expansion of its pension system, including for the first time non-contributory workers in the rural sector. Each worker over 60 years of age received a basic pension of one minimum wage per month. That reform alone had a large impact on poverty in the early 1990s, particularly in the rural area (as we shall see below). But the fact that the pension was linked to the minimum wage also meant that the real value of the minimum pension jumped between September 1994 and May 1995 when the minimum wage was raised by over 50 percent in real terms. That could be the main reason why Amadeo and Neri found such a clear negative relationship between the minimum wage and the poverty rate in their study.

We conclude that inflation hurts the poor and raising the minimum wage can help the poor. But the latter is only the case when the increase in the wage is sustainable without causing a subsequent increase in the inflation rate.

The Effect of Trade Liberalization on Poverty

Another of the important macroeconomic factors in Brazil in the 1990s was the adoption of many components of the Washington consensus. The reform that is most relevant to us here was trade liberalization. Between 1988 and 1994, the average tariff in Brazil was reduced from 38.5 percent to less than 15 percent (Cysne, 2000, p. 14), and various quantitative restrictions on imports were reduced as well. There have been several attempts to measure the impact of these structural changes on poverty. At the outset, note that the period when liberalization occurred (between 1988 and 1995) was also a period when the level of poverty and indigence in Brazil fell almost continuously. One cannot draw any firm conclusions on causality from the fact that these two things happened over the same time period since so many other things, in particular hyperinflation, recession, and three stabilization programs occurred over the same time period. To avoid this problem several different CGE models have been built for Brazil. They were used to simulate the effect on production, employment and wages of the changes in tariffs and foreign saving during the liberalization process, holding all other exogenous factors constant. The output of these models is fed into a microsimulation model which translates the CGE solutions into impacts on poverty and income distribution among families.

One of the models (Paes de Barros, Corseuil and Cury, 2001) starts with a 1995 base and then asks what the economy would have looked like in 1995 if it had the tariffs, quantitative import restrictions and capital inflows of 1985. In other words, the model backcasts from a 1995 data base. The other CGE (Carneiro and Arbache, 2002) goes forward from a 1996 base (it also backcasts to a 1990 tariff structure). The two models give roughly the same results. Opening the economy lowered inequality, increased total output and reduced poverty. In the backcast exercise going back to the 1985 tariff structure was particularly harmful to rural families and rural labor and to the urban unskilled. Protection reduces the total level of output and it also widens wage differentials in the urban sector (see Paes de Barros, Corseuil and Cury, p. 286-87). That says that protected industries are skill intensive in Brazil.

These simulated results are consistent with the observed trends in the skill differential. CEPAL has a series of average incomes in the urban sector for workers with different levels of skill (CEPAL, 2001, p. 184). They show that the ratio of incomes of professional-technical workers to non-professional workers was 2.15 in 1990, peaked at 3.11 in 1993, and then fell back to 2.16 by 1999. The same trend can be observed in the income comparisons. There was a widening of wage inequality in the early 1990s, but it probably had more to do with rising inflation during that period than with trade liberalization. When inflation was finally wrung out of the system after 1995, the skill differential returned to its pre-liberalization level.

If valid, these are important results. There has been a good deal of historical analysis based on various countries in Latin America that has argued that trade liberalization was regressive and that it hurt the poor.³ These CGE results say that analysis is wrong for Brazil. In the long

³ Morley (2000) in an econometric panel cross-section regression for most of the countries in Latin America found that trade liberalization raised inequality. The effect, however, was small and only significant in some of the specifications.

run, when the Brazilian economy has reached a new equilibrium after lowering tariffs, total output will be higher, the urban skill differential will be unchanged or lower and poverty will go down.

SECTION THREE: A PROFILE OF POVERTY IN BRAZIL

In order to design any sort of strategy to reduce poverty we first need to know who the poor are, where they are to be found and what are some of the characteristics of poverty households. These questions can be addressed on the basis of a very useful recent analysis of Ferreira, Lanjouw and Neri (2003), which made two important corrections to the income reported in the 1996 (PNAD) household survey. First, an estimated value of imputed rent in owner occupied housing was included in income. Second, region-specific poverty lines were used to allow for regional differences in the cost of the basic market basket. Two definitions of poverty were then computed, namely, indigence defined as those whose adjusted family income per capita was below the cost of the minimum food basket calculated to give the FAO minimum intake of 2288 calories per day. That cost was equal to R\$65.07 per month. The upper bound poverty line makes adjustments for non-food expenditures and is defined as R\$131.97 per month. We will call all those whose incomes are below this amount the poor.

Some of the key locational and personal characteristics of the poor and the indigent are shown in Table 4. The first thing that stands out is the overwhelming concentration of the poor and the indigent in the North and the Northeast. Almost 70 percent of the indigent and 55 percent of the poor are found in these two regions even though they contain no more than one-third of the Brazilian population. Average per capita income in the Northeast, the poorest area of Brazil, is only 35 percent of the average income in the Southeast according to the PNAD survey (Ferreira et al., p. 68). This large regional income differential has been a permanent feature of the pattern of poverty and distribution in Brazil, with little diminution despite the efforts of government since at least 1960 to provide direct assistance to the area.

Table 4: Poverty Profile Brazil, 1996

Household Characteristics		Poverty at Poverty Line of R\$131.97 per month			Indigence at Indigence Line of R\$65.07 per month	
		F _k	P ₀	S _k	P ₀	S _k
Region	TOTAL	100	45.29	100	22.59	100
	North	4.84	60.35	6.45	30.06	6.44
	Northeast	29.59	74.86	48.91	47.89	62.72
	Center-West	6.81	44.66	6.72	16.63	5.01
	Southeast	43.59	27.7	26.67	9.19	17.73
	Southeast	15.17	33.6	11.25	12.08	8.11
Location						
	Metro Core	17.63	23.3	9.03	7.47	5.83
	Metro Periphery	12.14	32.14	8.62	10.07	5.41
	Large Urban	18.89	30.08	12.55	10.22	8.55
	Medium Urban	15.69	41.71	14.45	17.58	12.21
	Small Urban	15.02	59.45	19.72	30.82	20.49
	Rural	20.63	78.21	35.64	52.03	47.52
Dependency Ratio						
	1	9.99	7.81	1.72	0.53	0.23
	1<d<1.5	14.6	19.95	6.43	2.5	1.61
	1.5<d<2	22.4	33.06	16.35	7.6	7.54
	2<d<3	21.85	52.72	25.44	23.44	22.67
	3<d<4	13.61	60.37	18.14	33.36	20.09
	d>4	15.31	80.51	27.22	58.28	39.49
Water						
	Piped	81.59	35.44	63.86	65.19	47.08
	Not Piped	18.26	89.14	35.94	35.46	52.68
Characteristics of household head						
Gender						
	male	82.26	45.62	82.86	23.3	84.85
	female	17.74	43.75	17.14	19.3	15.15
Race						
	indigenous	0.17	66.69	0.25	47.2	0.36
	white	54.27	31.08	37.24	12.66	30.39
	black	45.07	62.59	62.3	34.64	69.09
Education						
	0-1	21.86	75	36.2	46.22	44.71
	1-4	20.03	61.51	27.21	32.95	29.22
	4-8	30.1	41.04	27.28	15.78	21.03
	8-12	20.56	19.82	9	5.44	4.95
	>12	7.45	1.91	0.31	0.3	0.1

Source: Ferreira, Lanjouw and Neri, (2003).

Note: F_k is the fraction of total population in the group. S_k is the fraction of the poor in the group. P₀ is the fraction in poverty

This regional dimension, with the dynamic, modern sector located in the South, Southeast and to a lesser extent the Center West, has important implications for reasons that are not entirely understood. When the economy grows this is where the bulk of growth takes place. All growth processes start in a particular location and a particular sector and spread through a process of linkages to other sectors in the same area or to other areas. If these linkages are strong, the benefits of growth spread out and trickle-down, rendering the growth process relatively equitable. But partly because of distance and partly because of the lower level of physical and human capital in the North and Northeast, the links between the two regions are relatively weak. Thus, when there is a period of rapid growth in the dynamic regions of the country, the relative income level of the poor regions declines.

A recent study compared per capita income in the Northeast to Brazil. Between 1965 and 1980 when Brazil was growing rapidly, per capita income in the Northeast fell from around 55 percent to 47 percent of the national level. But one should also note that even though there was a decline in the relative income in the poor regions that does not mean that their per capita incomes fell. In fact, the population shares and the growth rates of income imply that average real incomes per capita in the Northeast must have grown by at least 4 percent per year over that period in order to stay as close to the national average as they did. When the economy slowed down after 1980 there was a slight convergence, not because growth had sped up in the poor areas, but because it slowed in the dynamic areas. When Brazil grows so does the North and Northeast, but they grow at a somewhat slower rate. That means that the poor in the North and Northeast tend to get left behind when the economy grows rapidly with two important consequences: growth tends to increase inequality at the national level, and the poverty problem becomes increasingly concentrated in the slower growing region.

Several factors help to offset this tendency toward widening regional inequality. The most important is probably migration, which moves people to where linkages are stronger. But they have not been strong enough or big enough to significantly reduce poverty levels in the areas of out-migration, particularly in recent years when the rate of growth of employment has failed to keep pace with the growth in the labor force.

Ferreira et al. (2003) shed some light on the nature of this regional factor. One could imagine that poverty is higher in the Northeast simply because education levels are lower, in which case investing in education should reduce the poverty differentials. The authors show that this is not the case. In a regression analysis that estimates the effect of each variable on the probability of being poor, holding all the other variables constant, Ferreira et al. find that location has a very large impact on the probability of being poor even after accounting for education and other household characteristics reported in Table 4. Of two individuals who are identical in terms of these conditions, the one living in the Northeast has twice the probability of being poor as the one who lives in the Southeast.

There are several other interesting locational dimensions to poverty. The table shows poverty levels by size of city as well as in the rural area. It is not surprising to find that rural poverty is higher than urban. What is surprising is the size of the rural poverty population. In Brazil, only 20 percent of the population is rural, but the table tells us that 80 percent of them are poor and over half are indigent. Indeed, one half of all the indigent poor in Brazil are in the

countryside, most of them in the North and Northeast. Any poverty reduction program has to deal with this fact. Designing a program for the rural poor has to confront the difficulty of incorporating this group into the modern economy or indeed reaching them with social services or transfers of any sort.

Visitors to the big metropolitan centers of Brazil like Rio de Janeiro and Sao Paulo often wrongly think that the bulk of the urban poor are to be found in the *favelas* (slums) that surround all the big cities. In fact, most of the urban poor are in the small- and medium-size cities and towns. The metropolitan areas comprise 37 percent of the total urban population, yet contain no more than 20 percent of the urban poor. This may be another result of the pattern of linkages: if most of Brazil's growth comes out of the big cities and if the linkages between those cities and the small cities and towns of the interior are weak, then growth will not lead to much poverty reduction, particularly if the agriculture and rural sectors lag behind as well.

The characteristics of heads of poor households reveal several interesting patterns. A major surprise is that poverty is not higher in female-headed households, but lower. The racial dimension of poverty, however, is strong. While Brazil has always prided itself on its lack of discrimination and racial equality, that does not appear to extend to economic opportunity. The 1996 survey shows that blacks were almost three times as likely to be indigent and twice as likely to be poor as whites. Overall blacks comprised 62 percent of the poor and 69 percent of the indigents.

As expected, education and the dependency ratio are both strongly correlated with poverty. Almost two-thirds of the poor and a larger percentage of the indigent live in families whose head has less than four years of education. The poor also tend to be found in big families with few earners (i.e. a high dependency rate). Almost half of the poor and 60 percent of the indigent come from families with a dependency ratio of three or higher.

To summarize, we find that the majority of the poor live in the North or Northeast in either the rural area or in small towns. A majority of them are black and a majority live in large families with high dependency ratios. Those families are typically headed by adults with low levels of education.

One additional dimension to the poverty story has to do with children. Recent data show that children represent the most disadvantaged group in Brazil. Table 5 shows that poverty rates are negatively related to age, and more important, 45 percent of the very poor in Brazil are under 15 years of age. Almost 40 percent of Brazil's preschool children live in indigent families.⁴ Poverty at any age is bad, but it is particularly bad for children, among other things because most human capital is acquired when one is young. Children from poor families are less likely to go to school and more likely to drop out of school once enrolled. They are also less likely to succeed in school. Economic pressures force poor children to go to work to supplement family incomes rather than to accumulate the human capital that would permit

⁴ Recall that the poverty line used in this table is lower than the one used to define indigence in Table 4.

them to escape from poverty when they grow up. Thus, these high poverty rates for children suggest a vicious circle in which poverty today helps to generate poverty tomorrow.

Table 5: Poverty by Age Group in 1999

	F_k	P_0	S_k
0 to 5	0.096	0.388	0.150
5 to 15	0.209	0.355	0.298
15 to 20	0.104	0.244	0.102
20 to 70	0.540	0.188	0.410
> 70	0.033	0.081	0.011
unreported	0.018	0.401	0.030
sum	1.000	0.248	1.001

Source: Neri and Costa, (2001).

Note: Poverty line is R\$ 61 per capita per month. F_k is the population share, P_0 is the headcount ratio and S_k is the share of the poor in the k th age group.

The issue of child poverty is important in light of the fact that in the 1990s Brazil significantly increased targeted social assistance to the aged. As discussed below, the expansion of rural non-contributory minimum pension payments after 1992 has significantly reduced poverty among the retired. While that is surely a good thing, it is also expensive and has opportunity costs. In effect, Brazil has decided to spend a lot of a limited assistance budget to help the aged, leaving less to help children. From a long-term perspective one could question those priorities. Recent programs such as Bolsa Escolar and Bolsa Alimentação are an attempt to redress the balance and help the children of poor families acquire the human capital they will need to escape from poverty.

SECTION FOUR: SOCIAL SPENDING AND RISING GOVERNMENT DEFICITS IN THE 1990s

An important development in the 1990s was the increase in targeted social spending. Although it was not very well targeted, that spending did have a significant effect on poverty (to be discussed below). But that is only part of the story. For despite a rising level of taxation, Brazil was never able to bring its overall spending into line with total tax revenue. As a result, there was a significant rise in the total deficit and level of indebtedness of the government, due partly to increases in social spending and to the transfer of revenue to local governments and partly to rising financial costs. By 2001, interest on the federal government debt had risen to 4.4 percent of GDP (de Castro et al., 2003). Between 1995 and 2002, the net value of government debt rose from 30 percent to 63 percent of GDP.⁵ Since the real interest rate has been rising and the growth rate falling, these ratios will both continue to increase unless steps are taken to reduce the deficit. It will be difficult to increase the level of targeted

⁵ The 1995 figure is taken from Bevilacqua and Werneck (1998) and the 2001 figure from Goldstein (2003). Net value of debt subtracts the value of assets owned by the government. The gross debt to GDP ratio has risen from 61% to 75% of GDP.

social spending in the future without a significant consolidation and coordination of the many programs that were put in place during the last three administrations.

Any consideration of government spending must take into account the fact that Brazil has a big government sector and consequently a high tax burden (see Table 6). In 1990, total government taxes (federal, state and local) were just over 25 percent of GDP.⁶ By 2001, the tax burden had risen to 34.3 percent of GDP. Total social spending has risen over the same period from about 21 percent of GDP to about 23 percent. Of that, the federal government spends about 14 percent and the state and local governments around 9 percent.

The Constitution of 1988 had two important implications for government expenditure and fiscal deficits. On the one hand, the constitution mandated significant tax decentralization. The VAT was taken away from the federal government and assigned to the states which, in turn, were required to transfer a certain percent to local governments. In addition, the federal government was required to transfer 21.5 percent of its three most important remaining taxes, the income tax, the social security tax and the industrial products tax to the states and local governments. Most of these transfers go to the poorer states since their revenue from the VAT is small (see Dillinger and Webb, (n.d.) p. 8). As a result of this change, the federal government's share of total government tax revenue after transfers fell from 61 percent in 1987 to 52 percent in 1992 (Dillinger and Webb, p. 9).

In order to avoid a fiscal disequilibrium, the federal government would have had to offload federal government expenditures to the states and local governments. But that proved difficult to do partly because federal employees and the Congress were not willing to lose their power and positions. To complicate matters the 1988 Constitution also mandated a very significant expansion of retirement benefits, particularly to government employees and to workers in the rural sector. Government employees were transferred into a very generous pension system which guaranteed a pension equal to their last salary (Mora and Varsono, p. 17). Rural workers were granted a pension of one minimum wage at age 60, whether or not they had been contributors to the social security system. This new benefit had an important positive impact on poverty levels when the system was finally implemented in 1992, but the two changes together made it impossible to match the transfer of tax revenue to the lower levels of government with lower expenditures. Instead, what the federal government did was to raise tax revenues. Current revenues rose from 15.9 percent of GDP in 1991 to around 19 percent in 1997 and to over 22 percent in 2001. The state and local tax burden actually fell in the early 1990s, but these governments significantly expanded expenditures by 33 percent in real terms between 1986 and 1995 while GDP was growing by only 14 percent (Dillinger and Webb, p. 23). In addition, there were several state debt crises during the decade, which forced the federal government to assume state debts. Thereby, adding to its considerable interest costs. To make matters worse from a tax efficiency perspective, most of the increase in federal taxes was confined to the social security tax since it is the main tax which the Constitution of 1988 did not require to be shared with lower levels of government (Mora and Varsano, 2001, p. 9). That meant that not only has the total tax burden increased, it has also

⁶ Unless otherwise noted, the data reported in this section are drawn from de Castro et al., "Análise da Evolução e Dinâmica do Gasto Social Federal: 1995-2001, (IPEA, Brasília, May 2003).

been shifted onto labor in the formal sector. This is both regressive and discourages job creation in the formal sector.

Table 6: Gross Tax Burden

Year	Fed Gross Tax Burden/GDP	State & Local Tax/GDP	Total Tax Burden
1990	0.173	0.081	0.254
1995	0.2	0.097	0.297
1996	0.193	0.097	0.29
1997	0.196	0.094	0.29
1998	0.204	0.093	0.297
1999	0.224	0.096	0.32
2000	0.228	0.101	0.329
2001	0.236	0.107	0.343

Source: de Castro (2003), p.38. The 1990 figure is from Draibe (2000) and may not be exactly consistent with the subsequent years.

In short, what Brazil had was a system in which taxing authority did not adequately correspond to the responsibility for the provision of government services. There was insufficient incentive to control expenditures and the issuance of debt, particularly at the state and local level. Unable or unwilling to cut its own expenditures, the federal government was forced to dramatically increase taxes, and yet even so the federal deficit rose to 4.1 percent of GDP by 2001 (de Castro et. al, 2003).

Taken together, the federal, state, and local governments have been devoting a large and growing share of GDP to social spending (Table 7).⁷ Social spending is defined to include not only such usual categories as health, education, housing and social assistance expenditure, but also unemployment insurance and pensions payments of the social security system (see line “social security and assistance” in Table 7). This last category has risen rapidly in the 1990s, mainly at the federal level where it now consumes 70 percent of total social spending, up from 53 percent in 1990-91.

⁷ According to the table, social spending was 20.8% of GDP in 1997-99 and according to the figures in de Castro et al. (2003) it was at least one percentage point higher by 2001.

Table 7: Social Spending by Area and Level of Government

Social Sector	Average 1990-91		Average 1997-98	
	Social Spending per Capita (97 dollars)	Social Spending as % GDP	Social Spending per Capita (97 Dollars)	Social Spending as % GDP
Federal Social Spending	476	11	605	12.5
▪ Education, science, & tech	55	1.3	43	0.9
▪ Health, food, and nutrition	115	2.7	95	2.0
▪ Social security and assistance	254	5.8	423	8.7
▪ Labor and training	36	0.8	35	0.7
▪ Housing and sanitation	16	0.4	9	0.2
State and local	310	7.1	402	8.3
▪ Education, science, & tech	107	2.4	145	3.0
▪ Health, food, and nutrition	41	0.9	79	1.6
▪ Social security and assistance	97	2.3	117	2.4
▪ Labor and training	14	0.4	10	0.2
▪ Housing and sanitation	51	1.1	51	1.0
Total, consolidated	786	18.1	1007	20.8
▪ Education, science, & tech	162	3.7	188	3.9
▪ Health, food, and nutrition	156	3.6	174	3.6
▪ Soc. security and assistance	351	8.1	540	11.1
▪ Labor and training	50	1.2	45	0.9
▪ Housing and sanitation	67	1.5	60	1.2

Source: CEPAL, Panorama Social 2000-2001, p. 119.

Education, and to a lesser extent health, are the responsibility of state and local governments. Since almost 9 percent of GDP goes to social assistance (see Table 7), it may seem as if the federal government is making a large commitment to this item. But 94 percent of this consists of payments to retired people through the social security system and only 6 percent to social assistance per se (de Castro et al., 2003, p. 18). The social security payments include the non-contributory payments to poor rural workers, so they are more directed to the poor than they might appear (see the next section). However, the key point is that the bulk of federal social spending goes to the aged, both poor and non-poor. Most social spending in education and health for the young is done by state and local governments. Unfortunately, the federal government is not financially in a position to direct more spending either to the poor or the young. As we have seen, despite a very significant increase in taxes and the tax burden, it is still running a significant deficit because of the costs of the retirement system and the carrying costs of the national debt. Any significant increase in safety net expenditures or investments in human capital formation will have to come from money saved in the retirement system or from administrative reforms. Given the current tax burden, they probably cannot come any further increase in taxes.

As we have seen, the government is devoting an increasing share of both its expenditures and of GDP to social spending (broadly defined), leading to a rising government deficit,

increasing interest rates, and significant crowding out of private investment. Prior to 1980, the government used to run surpluses of 2-4 percent of GDP, augmenting the supply of private saving available to finance investment (Table 8). Now, however, the government is using over 5 percent of GDP to finance its own spending, requiring both more domestic and foreign saving. To make matters considerably worse, there has been a rise in the relative cost of capital goods, so that in real terms the investment rate has fallen sharply since 1980. This reduction in investment has no doubt been a factor in the slow growth of recent years. In effect, one could say that rising social spending is crowding out capital formation or, at the very least, making it more difficult to reach satisfactory growth rates in the future.

Table 8: Investment and Saving in Brazil 1951-2000

Years	Rate of Investment (% GDP)		Saving (% of GDP)			
	Current prices	Constant prices	External	total	public	private
1951-63	15.4	19.1	1.4	14.1	2.5	11.5
1964-80	19.8	21.7	2.4	17.5	3.6	13.9
1981-93	21.2	17	1.1	20	-1.5	21.5
1994-2000	19.7	16.5	3.3	16.4	-5.4	21.8

Source: Lisboa, (n.d.) Note that for the last two periods the deficit shown is the operational deficit.

Targeted Social Programs

During the 1990s, Brazil has made an impressive effort to reduce poverty and inequality through the implementation or expansion of a wide range of targeted social programs. This is one of the principal reasons that poverty has declined more than one might have expected, given the slowdown in the overall growth rate. In this section, we describe the main components of these targeted social programs.

Rural Social Security: Rural social security is far and away the biggest of the targeted social programs.⁸ Up to 1988, the main social security system covered only the formal sector, leaving out agriculture and informal sector workers. A rural social security system (Funrural), established by the military after 1964, paid a benefit of one-half of the minimum wage to family heads over 65. The 1988 Constitution was designed to broaden the coverage of this instrument and make it more egalitarian. The intention was for the state to provide a basic safety net and protect the family farm. The expanded system lowered the retirement age to 60 for men and 55 for women. For the first time it covered both men and women in the same household and it raised the benefit from one half to one minimum wage. Unlike the main social security system, eligibility did not require a minimum number of years of contributions into the system. Rural beneficiaries had only to prove that they had worked in agriculture, fishing or forestry for a period that was originally set at five years, later raised to 102 months in 1998 (World Bank, 2001a, p. 233).

⁸ The description of the rural social security system is taken from Schwarzer and Querino, (2002), World Bank, (2001a), vol. II, chapter 8 and Guilherme Costa Delgado, (1999).

The new system was finally implemented after 1992. Several recent studies document its large impact both on the number of rural beneficiaries and on rural poverty levels (David, 1999; Delgado, 1999; and Schwarzer and Querino, 2002). Between 1992 and 1994, the rural retirement system grew by 50 percent or almost two million new beneficiaries, the majority of them women (Schwarzer and Querino, 2002, p. 16; and Delgado, 1999, p. 8). By 2001, the rural system was paying R\$1.2 billion per month or about \$5 billion per year to 6.6 million individuals 98 percent of whom were in the non-contributory system and received one minimum wage per month (Schwarzer and Querino, 2002, p. 12). Most of this sum, about 1 percent of GDP, was a direct transfer from the urban contributory system.

Several different studies confirm a large impact of the system on poverty. A special 1998 survey of rural household in the South and the Northeast found that in 80 percent to 90 percent of the beneficiary families in both regions, the rural pension comprised at least 50 percent of the monetary income of the beneficiary families (Schwarzer and Querino, 2002), p. 17). Schwarzer and Querino estimated what percentage of people would be below the indigence line (which they approximated as 1/4th of the minimum wage) with and without the rural social security payments. They calculate that the indigence rate would have jumped from 10.4 percent with the system to 19.8 percent without it. With a higher poverty line of one-half the minimum wage the impact is equally impressive, cutting the rate from 37.2 percent to 26.7 percent (Schwarzer and Querino, 2002, p. 38). In short, Brazil is spending roughly 1 percent of its GDP and reducing national indigence rates by 10 percentage points or almost 50 percent and national poverty rates by almost 30 percent.

Social Assistance Programs: In addition to the rural social security system, Brazil has implemented a means-tested system of social assistance for the aged and disabled living in both the rural and urban sectors. The first such program, the Renda Mensal Vitalicia (RMV) implemented by the military regime in the mid 1970s, was limited to those over 70 years of age without income or any other means of support who had made at least 12 contributions to the social security system during their lifetimes. The benefit was set at one-half the minimum wage (Schwarzer and Querino, 2002, p. 24). By 1996, the program and its benefits had been greatly expanded to cover around 1.2 million people at a cost of around R\$800 million per year. In that year, the government implemented the LOAS (Lei Orgânica de Assistência Social) and defined the BPC (Benefício de Prestação Continuada) as a replacement for the RMV for new beneficiaries. The benefit level was raised from one-half to a full minimum wage per month and the requirement of prior contributions to the social security system was dropped. Beneficiaries are required to have a per capita family income of less than one-fourth the minimum wage. In addition, no member of the family can receive payments from the social security system. By December 2001, the RMV system had contracted to 740,000 beneficiaries while the BPC had grown to 1.4 million. About 20 percent of those beneficiaries are rural and two-thirds are disabled (IPEA, 2002a, p. 96). This component of the social assistance system cost R\$4.5 billion (\$1.5 billion) or around .4 percent of GDP in 2001 (IPEA, 2002a, p. 36).

Other Social Assistance Programs: There are a large number of other social assistance programs, some targeted to children in poor families, others to low income workers, others to

the agricultural sector, others for housing, for subsidized credit or for nutrition. In this section, we describe the biggest and most significant of these programs.

Bolsa Escola: The Bolsa Escola is a large national cash transfer program to poor families with children aged 6-15 conditioned on the children attending school. Begun in 2001, it grew out of a number of successful local programs and a small national program, the Guaranteed Minimum Income Program (PRGM) which had been running since 1998. It gives R\$15 (\$6) per month per child up to a maximum of three children per family or R\$45.⁹ The money is transferred from the national treasury to an account set up in the name of the mother. The mother is also given an electronic card with which she can withdraw the money at any branch of the Caixa Econômica Federal or at thousands of other local outlets. The federal government uses a national poverty map and an education census to determine the number of potential beneficiaries in each municipality. A local committee chooses the beneficiary families. In 2001, R\$ 1.7 billion (\$680 million) was allocated to this program to cover 10.7 million children from 5.8 million families. By December 2001, 8.2 million children were enrolled.

PETI: Another small conditioned and targeted cash transfer program, PETI (Programa de Eliminação de Trabalho Infantil) has the objective of reducing child labor in the worst types of jobs, namely those in sisal, cassava processing, charcoal production, mining and the collection of sugar cane, cotton and tobacco. It gives a stipend of R\$25 in the rural area and R\$40 in urban areas per child per month for poor families with incomes of less than one-half the minimum wage provided that they take 7-14 year olds out of labor market and send them to school. PETI was initiated in 1996 and by 2001 reached 717,000 children at a total cost of R\$312 million (SEAS, n. d., p. 9; and IPEA, 2002a, p. 36). It is administered by the new Ministry of Social Assistance.¹⁰

Nutrition Programs: The biggest nutrition program is Merenda Escolar, a school lunch program run by the Ministry of Education. In 1997, it provided lunches to 35 million beneficiaries at a cost of R\$.13 per meal or R\$600 thousand. Funds are now transferred directly to the schools on the basis of enrollment rather than indirectly through local governments. The program is concentrated at the pre-school and primary school level and is therefore quite progressive in its distributional impact. There are several smaller nutrition programs.

A Workers Food Program (PAT), created in 1976 under Ministry of Labor to improve workers nutrition, spent R\$71 million in 1996. In 2002, it reached 7 million workers in 100,000 firms. The program subsidizes meals for workers who pay only 20 percent of the cost of the meals. The program is voluntary and participating firms receive a tax break to cover part of the cost (IPEA, 2002, p 53). It is not clear what the total cost of this program is since part of it is paid by tax breaks rather than direct expenditure.

⁹ R\$15 per month is about 8% of the minimum wage in Brazil in 2001. See Morley and Coady, (forthcoming) for a more complete description of the new Bolsa Escola program.

¹⁰ In the new government that ministry has been renamed the Ministry of Assistance and Social Promotion (MAPS), not be confused with the Social Security Ministry whose acronym is MPAS.

PRODEA (Program de distribuição emergência de alimentos), an early program that directly distributed food to poor families, was created in 1993 as part of reaction to a drought in the Northeast and then went national in 1996 as part of the new Cardoso government project called Comunidade Solidária. A government agency, CONAB, was responsible for its execution. A local committee selected families to receive the food bundle (cesta). CONAB warehoused the food and the municipality was responsible for transportation. PRODEA distributed 3.1 million food bundles in 1995, 7.5 million in 96, 14.8 million in 97 and 29.8 million in 1998 (see Lavinias, 2000). The entire program cost R\$ 160 million in 1997. This program grew a lot before being replaced by a two new programs—Programa Cesta de Alimento, which continued to directly distribute food to poor families (it distributes 10 million bundles in per year), and Bolsa Alimentação (BA), begun in 2001.

The purpose of Bolsa Alimentação was to move away from the direct distribution of food to cash payments instead. The BA program is a demand-side incentive with money transfers to very low income families with pregnant and lactating women, and/or infants and young children aged 6 months to 6 years. The cash transfer is R\$15 per month per beneficiary with a maximum of three beneficiaries per family, conditional on women committing to a ‘Charter of Responsibilities’ which requires regular attendance at pre-natal care and growth monitoring, compliance with vaccination schedules, and health and nutrition education. This ‘partnership of trust’ reinforces the bond between the local health services and marginalized families of limited resources. Once fully underway, the program will benefit 800,000 pregnant and lactating women and 2,700,000 children from approximately 2.5 million households and from all 5,561 municipalities in the country. US\$300 million will be invested in this program each year, from the Brazilian Federal Fund for the Alleviation of Poverty. According to the World Bank, in 1997, all of the nutrition programs together were costing the government around R\$ 800 million or .1 percent of GDP (World Bank, 2001b, p. 86). The cost is at least R\$ 1 billion today (IFPRI, 2002, p. 1).

Programs for Workers: Brazil has many assistance programs targeted to workers. In addition to the already mentioned subsidized food program (PAT), there are training programs, workfare, unemployment insurance, credit programs for small enterprise to generate employment, and so on. The main ones are financed by the Fundo de Amparo ao Trabalhador (FAT), which is funded from a tax on corporate revenue. The FAT funds are used for unemployment insurance, a subsidy to unskilled labor (Abono Salarial), and various training and credit programs. The unemployment insurance program is by far the biggest. After 6 months of employment, the system provides 3-5 payments during the first year of unemployment. It can be repeated after 16 months. In 1997, the system disbursed R\$ 3.5 billion to 4.4 million unemployed workers. The average payment was 1.57 times the minimum wage (R\$ 185 per payment) (World Bank, 2001b, p. 78). In 2001, the government spent R\$4.8 billion on this program. Eligibility is limited to workers in the formal sector who have made contributions to a special fund set up for that purpose. The program is not means tested, and not particularly well targeted, given that recipients are all formal sector workers.

The Abono Salarial, also administered by the Ministry of Labor, is a subsidy to unskilled labor in the formal sector and by its nature is intended to help poorer workers. The Abono pays one monthly minimum wage for formal sector employees who earn less than 2 monthly

minimum wages. In 1997, it covered about 4.5 million workers (see World Bank, 2001b, p. 79). In 2001, R\$900 million was spent on this program (IPEA, 2002a, p. 35). According to a recent study, the Abono is not well targeted, with most of the benefits going to the third and fourth quintile (World Bank, 2001b, p 79).

Plano Nacional de Qualificação Profissional (PLANFOR): This program was started in 1995, has a budget of 500 million reais, and provides training for around 4 million people per year.

Programa de Geração de Emprego y Renda (PROGER): This credit program to fund employment generation draws its money from FAT. The loans go to small enterprises, many of them in the South. The World Bank has concluded that this program is not well targeted. In 2000 more than one million credit operations were done with a total of R\$ 3 billion. This includes both PROGER and PRONAF which is a credit program for agriculture. The bulk of the loans were in PRONAF.

Fundo de Amparo ao Trabalhador (FAT): The main labor programs are financed out of this fund. In 1997, it received 8.3 billion R\$, R\$5.4 billion came from PIS-PASEP, which is a corporate revenue tax, the rest from interest on its deposits. It spent R\$ 4.1 billion on unemployment insurance, R\$600 million on the Abono Salarial, and R\$ 4.3 billion on various credit programs. Forty percent of the PIS-PASEP taxes are passed on by FAT to BNDES for their general credit programs. The rest goes to unemployment insurance and training programs like PLANFOR.

Workfare programs: Brazil has a long history of workfare programs mainly concentrated in the Northeast for drought relief. In 1998-99 during the drought of that year, R\$ 1 billion was spent in drought related public works (World Bank, 2001, p. A6-3-4). The projects pay R\$65 per month for a 27 hour work week. The federal government also pays 20 percent of this amount for non-wage costs (tools and material). The states top up the federal contribution. The wage is roughly the same as the wage for casual labor in the Northeast.

Programs in Agriculture: Other than the rural pension scheme described above, there are a number of programs targeted to the poor in agriculture. The two main ones are a family agriculture credit program (PRONAF) and several programs to help landless farmers acquire and develop small farms. PRONAF was started in 1995 and had a budget of R\$1.5 billion in 1998, reduced in 2001 to about a billion reais. The money comes from the FAT and is administered by the Banco do Brasil. The program allows small borrowers to borrow at a subsidized nominal interest rate of 5.75 percent per year (negative in real terms in 1999). The maximum loan is R\$5000 for working capital and R\$15,000 for fixed capital. The program started operation in 1995 and has good repayment level. The World Bank estimated that 20-25 percent of PRONAF loans reached the bottom quintile (see World Bank, 2001a, vol. II, chap. 9).

Land reform and resettlement programs: Brazil spent nearly R\$2 billion in 1998, falling to about one billion in 2001 on a number of different programs designed to purchase and distribute small plots of land to landless peasants. In 1998, these programs benefited about

100,000 families, implying an aggregate cost of R\$ 20,000 per family (World Bank, 2001a, vol. 2, p 254). The government has experimented with a number of ways to do this, some financed by the World Bank. The World Bank estimates that around 70 percent of the benefits of these programs go to the poor (those under R\$65, which is midway between the lines we have used to define rural indigence and poverty).

How well targeted are the targeted social programs? Overall, Brazil is spending almost one-fourth of GDP on social programs, defined broadly to include unemployment insurance, retirement benefits of all sorts, education and health, urban renew and housing, land reform, microcredit, and so on. That fact coupled with the high levels of poverty and inequality has sparked a controversy in Brazil. Paes de Barros and others have calculated the amount of perfectly targeted government spending that would be necessary to eliminate extreme poverty altogether. In 1999, the last year for which the analysis is available, 3.3 percent of GDP or around 7 percent of average family income would have eliminated poverty and less than 1 percent of GDP or 2 percent of average family income would have eliminated indigence or extreme poverty (Henriques, 2000, p. 29-30).¹¹ If the government is spending over 20 percent of GDP on social programs and still has not even come close to eliminating extreme poverty, then according to conventional wisdom they must be spending inefficiently or targeting their spending badly.

The main focus has been on the targeting of social spending. In an incidence analysis of all the programs included in a broad definition of social spending, the World Bank found that overall no more than 13 percent of total social spending was going to the bottom 20 percent of the per capita income distribution (see von Amsberg, Lanjouw and Neal, 2000, p. 717). As Paes de Barros was later to put it, the poor would have been better off if the government had simply distributed money randomly throughout the population.¹² This certainly looks like very poor targeting. However, the estimate is misleading because rather than looking at that part of social spending that is actually intended to be targeted to the poor, von Amsberg et al. looked at all social spending. This is a very important distinction because the objective of a large part of social spending was never poverty alleviation. The distinction matters most in the case of pensions. As noted above, Brazil has two pension systems one comprised almost entirely of urban formal sector workers whose pensions are related to their contributions or their last wage. The other is the rural component, based on time of service and not to prior contributions. To include the urban contributory part of the social security system, as in the Amsberg et al. study, is quite misleading since that component represents about one-fourth of all the social spending in their calculation (and three times as much as all the targeted programs we will analyze in Table 9), and because virtually none of it goes to the bottom quintile.¹³ The same point could be made for unemployment insurance. It is a contributory

¹¹ Henriques draws on the essay by Paes de Barros, Henriques and Mendonça in IPEA, *Desenvolvimento Econômico Social Brasileiro na década do 90*, (IPEA. 2000).

¹² What he really said was that the government would have gotten more money to the poorest quintile if it had flown around the country with helicopters dropping money randomly on the population.

¹³ Amsberg et al. estimate that only 7% of the social security retirement payment, including both the rural basic and the urban components went to the bottom quintile. Those payments, however, comprise over one-half of their total social expenditures.

system for workers in the formal sector, very few of whom come from the bottom of the income distribution.¹⁴

Table 9: Incidence Analysis in Compensatory Programs of the Federal Government

Targeted Programs	Expenditure (millions of Reais)	Expenditure/ GDP (%)	Percent to Bottom 20%	Amount to Bottom 20%
HEALTH				
Bolsa alimentação	300.0	0.02532	0.7	210.0
Other nutrition	167.0	0.01410	0.8	133.6
Youth health	4.4	0.00037	0.42	1.8
Milk programs	12.9	0.00109	0.29	3.7
Total	484.3	0.04088	0.721	349.2
EDUCATION				
Bolsa escola	1700.0	0.14349	0.7	1190.0
School lunches	902.2	0.07615	0.25	225.6
Total	2602.2	0.21964	0.544	1415.6
ASSISTENCIA SOCIAL				
BPC and RMV (disabled)	2876.0	0.24275	0.7	2013.2
BPC and RMV (aged)	1625.0	0.13716	0.7	1137.5
Preschool (crèche)	277.1	0.02339	0.24	66.5
PETI	312.3	0.02636	0.8	249.8
Brasil joven	44.0	0.00371	0.5	22.0
Comunidade activa	12.1	0.00102	0.5	6.1
Total	5146.5	0.43439	0.679	3495.1
PREVIDENCIA SOCIAL				
Rural non contrib. retirement	14116.8	1.19152	0.2	2823.4
Total	14116.8	1.19152	0.2	2823.4
LABOR				
Abono salarial	896.5	0.07567	0.13	116.5
Admin of Abono sal	23.5	0.00198	0.13	3.1
Subsidy to transport	323.2	0.02728	0.13	42.0
Food subsidy for workers	453.4	0.03827	0.13	58.9
Training for youth at risk	14.7	0.00124	0.5	7.4
Total	1711.3	0.14444	0.133	227.9
AGRICULTURE				
Rural asentamentos	669.1	0.05648	0.7	468.4
Novo mundo rural	252.3	0.02130	0.7	176.6
Pronaf	1008.4	0.08511	0.2	201.7
Emacipacion de settlements	110.4	0.00932	0.5	55.2
Total	2040.2	0.17220	0.442	901.9
HOUSING AND URBAN				
Favela upgrading	441.4	0.03726	0.34	150.1
Grand Total	26542.7	2.24033	0.353	9363.0

Source: Absolute spending taken from IPEA (2002a). Incidence is taken from von Amsberg et al. (2000). Note that since Bolsa Alimentação was just getting under way in 2001, the estimate of spending for 2002 was used.

Table 9 presents our attempt to evaluate the targeting of those components of social spending whose objective is poverty reduction. To do that, we combined data on spending by program for 2001 with the incidence estimates from the von Amsberg et al. study where the programs are the same. For programs such as Bolsa Escola, which did not exist in 1996, we used

¹⁴ Amsberg et al. estimate that only 13% of unemployment benefits went to the bottom 20% (see p. 717).

targeting information from other sources to make an informed guess of the incidence. The only important area of uncertainty in these estimates concerns the share of rural pensions going to the bottom 20 percent. A World Bank study (World Bank, 2001a, chap. 9) by von Amsberg estimates that only 13 percent of non-contributory pensions goes to the poor. But as the author notes, this estimate does not distinguish contributory from non-contributory pensions in the rural area, nor is it clear whether the result refers to income including or excluding the pensions. That is not a minor issue, since rural pensions comprise roughly one-fourth of total aggregate income of the rural poor (World Bank, 2001a, p. 270). In the table, we will assume that the bottom 20 percent receives 20 percent of rural pension payments. The results of our calculations are displayed in Table 9. What really differs between our estimates and those of von Amsberg et al. is that we have excluded the contributory part of the pensions, unemployment insurance, and expenditures in the Ministries of Education, Health, and Labor for schools, hospitals and labor programs that are not compensatory.

The first and most important conclusion to draw from Table 9 is that the total amount of social spending that is specifically intended to help the poor, which we call “compensatory”, is a small fraction of either GDP or of total social spending. According to the table, in 2002 the federal government spent R\$26.5 billion (\$9.2 billion) on these programs (i.e. about 2.2 percent of GDP and less than one fifth of total social spending by the federal government). More to the point, it is quite a good deal less than the poverty gap or the amount which if perfectly targeted would eliminate poverty altogether. Furthermore, 35 percent of that spending goes to the poor. Rather than spending a lot but spending it badly as the critics claim, it would be fairer to conclude that, in fact, Brazil does not spend very much on compensatory programs, but what it does spend is quite well targeted.

Whether it would or would not be appropriate to spend more on compensatory programs is a difficult policy question, but it seems clear that the reason that the government has not done so in the recent past was because of the pressure on the federal budget from two sources: interest costs and contributory retirement pensions. In 2001, interest cost alone came to R\$52 billion, twice what the government was able to spend on poverty alleviation. It spent an additional R\$60 billion on contributory pensions and an additional R\$41 billion on government pensions (see IPEA, 2002a, p37).¹⁵ Together those two retirement components are taking almost 10 percent of Brazilian GDP. If Brazil is not spending enough on poverty alleviation, it is because it is spending too much on interest and retirees in the formal sector.

The other fact that stands out in the table is the large role of rural non-contributory pensions in the total for poverty alleviation. They alone comprise 53 percent of poverty spending and 1.2 percent of GDP. As noted earlier, this spending has had a powerful impact on poverty. Recent research shows that it has reduced national indigence rates by ten percentage points from 19.8 percent to 10.4 percent or almost 50 percent and national poverty rates by almost 30 percent (from 37.2 percent to 26.7 percent) (Schwarzer and Querino, 2002, p. 38). Far

¹⁵ The R\$60 billion is an estimate. The IPEA study gives the total cost of pensions, but does not distinguish the rural non-contributory part from the contributory. The Swarzer and Querino paper does give this breakdown, but only for the month of August 2001. We have multiplied the monthly figures by 12 to get the estimate of the rural component as R\$14 billion and the urban contributory part as R\$ 60 billion. The total from that paper is R\$74 billion, close to the total of R\$75 billion reported in the IPEA account.

from being badly spent or poorly targeted, this program appears to be the most efficient poverty-reduction safety net program in Brazil. The other large program is the BPC-RMV safety net pensions for the aged or disabled. Eighty percent of the beneficiaries of those two programs are urban. According to the von Amsberg et al. study, those two programs are also well targeted, with 70 percent of the benefits accruing to the bottom quintile of the income distribution. No one has calculated how much these two programs have reduced total poverty, but it is likely to be comparable to the rural pension scheme. We would conclude that Brazil is, in fact, getting quite a lot of poverty reduction for the two percent of GDP that it devotes to this objective.

SECTION FIVE: WHAT CAN BRAZIL DO NOW TO FURTHER REDUCE POVERTY?

Brazil has made significant progress in poverty reduction in the past ten years. Since 1998, however, progress has stalled as the growth rate of the economy slowed down. A lot of that progress came from the control of inflation under the Real Plan. That one-time improvement cannot be repeated. Another significant reform for poverty reduction was the implementation of the non-contributory rural pensions in the early 1990s. It is estimated to have reduced poverty and indigence rates by about ten percentage points and virtually eliminated indigence among the aged. Even after these significant improvements, there are still 60 million people below the poverty line and 25 million below the extreme poverty line. Given the level of income in Brazil, that is still far too large a group. What can be done to reduce its size?

The most important single advance the government could make would be to achieve a higher and sustainable rate of growth. Along with helping to reduce unemployment, an increasingly serious problem in Brazil, that would also significantly reduce poverty. Even at the low poverty growth, elasticities of the 1970s each one point increase in the growth rate of the economy would reduce the poverty population by over 250,000 per year. With even a slightly more progressive set of government policies it should be possible to reduce the number of people living in poverty by a million or more per one percent increase in the growth rate. The fact that the impact of growth on poverty is large should be kept in mind when weighing the advantages of transfers as opposed to growth inducing investments as instruments of poverty reduction. Two additional advantages to focusing on getting a higher rate of growth are that 1) it will increase employment and reduce the political tensions resulting from rising unemployment; and 2) it will reduce the fiscal straightjacket that currently limits the ability of the government to expand its social spending on poverty reduction.

Redistribution or Growth: Brazil has one of the most unequal income distributions in the world. Two important policy implications seem to follow from this. First, since such a small fraction of total income goes to the poor they will get an equally small share of any growth that leaves the distribution unchanged. The gains in absolute income levels of the rich will far exceed those of the poor, even if both groups register the same percentage gains. An important group in Brazil has concluded that growth is not particularly effective in reducing poverty and that one can reach that goal more rapidly by redistribution (see Schwartzman and Urani, 2002; and Paes de Barros, Henriquez and Mendonça in Henriques, 2000). If by this one means that the government should worry less about how to generate more growth and

more about how to redistribute more of the income already available, we think the approach is wrong. We think that getting back to a sustainable growth rate of 5 to 6 percent per annum is the central development and poverty reduction challenge facing Brazil.

But there is more to the issue than just growth versus distribution. Brazil can and should concentrate more resources on poverty-targeted investments that generate growth and reduce poverty at the same time. Those sorts of investment increase the productivity of the poor and help them and the country grow their way out of poverty. The use of poverty-targeted investments does not force one to choose between poverty reduction and growth. One can do both at the same time. The redistribution approach tends to imply that the solution is simply to tax and transfer income away from those at the top and give it to those at the bottom. It may make sense to do this, but the instrument should be growth-enhancing investment expenditure rather than an unconditional transfer. The way the argument is being made in Brazil gives insufficient attention to what form such transfers would take or how growth-inducing transfers could be defended politically.

Brazil is already running significant deficits and has little room to raise taxes further. Many (including this author) believe that those deficits are already crowding out the investment that would be required to grow more rapidly. Retargeting some of the existing social expenditures is already being proposed in the form of a significant reform of the formal sector and government social security systems to make them less generous for retirees. If that reform is successful, some of revenue saved could be channeled into an expansion of the targeted programs. But increasing formal sector taxes to expand targeted programs will crowd out investment and lower the growth rate, all of which may well offset whatever positive effects the transfers themselves would have on poverty.

Another problem with the transfer approach involves the important regional dimension to poverty and distribution. Recall that 70 percent of the indigent population is in the Northeast. Poverty-reducing transfers inevitably involve significant flows from the Southeast to the Northeast. Aside from questions about whether that is politically feasible, there are economic questions about whether one could increase taxes in the Southeast without affecting the growth rate of that economy.

Reducing Rural Poverty in the Northeast: Beyond a general growth strategy, it seems clear that any successful approach to poverty reduction has to include some specific actions to confront the problem of the Northeast, and in particular the rural area of the Northeast. Recall first the evidence cited earlier that the Northeast fell further behind the rest of the country in past periods of rapid growth (1965-80). That does not mean that the North-Northeast did not grow. But it does mean that most of the severe poverty that remains is in these areas. From the poverty profile (see Table 3) we saw that almost 70 percent of all the indigent people and 55 percent of the poor in Brazil live in the North and Northeast. A recent study by the World Bank of the 1996 PPV survey in the Northeast showed that 68.5 percent

of the rural population was poor and 84 percent of the total rural poverty population (NE and SE) live in the Northeast (World Bank, 2001a, Vol. II, pp 159-163).¹⁶

The government of Brazil has been attempting to solve the problem of rural poverty and development in the Northeast for at least the last forty years, using tax incentives, government investment projects, regional development agencies, micro credit, land reform, and many other actions. It has been actively supported by the World Bank and many other donor agencies. Between 1975 and 1983 the Northeast received about 3 billion dollars for a first generation of integrated rural development projects known as POLONORDESTE. Difficulties with project implementation soon emerged. Problems included multi-agency coordination, too much attention to increasing agricultural productivity, and not enough attention to the wider macro context or to demand and markets. There was insufficient flexibility, bad targeting, land tenure problems, institutional deficiencies, political manipulation, and too much federal and state bureaucracy. In addition, the federal government failed to supply promised counterpart funds (see Van Zyl et. al., 1995, pp. 7-10).

It is beyond the scope of this summary report to offer a detailed plan for speeding up rural development in the Northeast. But we would assert that any such plan should follow certain guidelines or principles. First, it should to the greatest extent possible be based on poverty-targeted investments rather than safety net transfers. By this we mean investment expenditures that not only increase the earnings of the poor in the short run when they are being built, but also increase the productivity or earning power of the poor in the long run. Simple transfers or safety net subsidies also increase the short run income of the poor. However, they do not have much if any long run effect. The Northeast is already the beneficiary of a very important safety net program—the rural non-contributory pension system. This program has essentially eliminated the problem of extreme poverty among the aged which is an important step forward. But what the Northeast needs now is investments which will increase the productivity and therefore the future income of the poor. It needs more poverty-targeted investments.

A number of different types of poverty-targeted investments should be considered. Some of these are already being implemented. One of the most important is Bolsa Escola, a program that pays parents to keep their children in school. But it does much more than that. By increasing the human capital of the children of the poor, it increases their future earning power and their chances of escaping from poverty. Morley and Coady (forthcoming) analyzed all the available evidence on conditioned transfer programs for education like Bolsa Escola and the Mexican program Progresá. For participants of Progresá and a similar program in Nicaragua, they showed that the added education increased the future earnings of the children of the poor by more than the value of the transfer that their families receive. In other words, the investment component of the program is of greater value to the poor family than the transfer is.

¹⁶ The poverty line used in the World Bank study was R\$65 per month which is midway between the indigence and the poverty lines used in the other studies cited in this report. This should not affect the disaggregation of the rural poverty population by location.

The education picture in the rural Northeast is particularly dismal. Eighty-one percent of agricultural workers are illiterate and 85 percent of all school students are in the first four grades (World Bank, 2001a, Vol. I, p. 15). Most children, even in the rural areas of the Northeast, do get to the first grade. The problem is early drop outs and grade repetition. Only 50 percent make it through the fifth grade and in the Northeast only 16 percent graduate from primary school (Menezes Filho, 2001, p. 36). If the Bolsa Escola works in the Northeast as well as it has elsewhere in Latin America, it can have a significant impact on rural poverty. That may not come from increasing the earnings of the poor in agriculture. It may come from giving children enough education so that they can get better paying jobs either in the urban sector of the Northeast or in the more dynamic Southeast. But in either case the transfer from the program will reduce poverty in the short run and the added education will reduce poverty rates somewhere in Brazil in the next generation.

Other poverty-targeted investments worth considering are construction projects in farm to market roads, small scale irrigation, land reclamation, and other types of rural infrastructure. Since we know that the construction sector is a big user of unskilled labor, any of these projects will increase the income of the poor while the project is being built, and then will increase the productivity of the poor once the project is in operation. A lot of the income of rural households comes from non-farm activity. Indeed, one of the things that distinguishes poor from non-poor families in the rural sector is whether or not they have non-farm earnings. A significant program of productivity-increasing rural investments should be a part of the strategy to reduce rural poverty in this region.

There are many other things that a development-minded government can do to increase rural growth in the Northeast. It can help the rural small farm sector by reforms of rural land and finance market since access to land and credit continue to be major problems for the poor in the Northeast. The government could also increase research in technologies and crops suitable for small farms, and develop an effective system of extension to spread that knowledge to small farmers. It can also help in the development of markets for niche labor-intensive niche crops.

Before the mid-1980s, the World Bank made major investments in what were called Integrated Rural Development Projects. Though those projects have generally been considered a failure, there is currently some rethinking about the genre. Some years ago, the World Bank did a case study of rural poverty alleviation projects in eight states of the Northeast (van Zyl et al., 1995). The projects they looked at sound like those that are typical of social investment funds. They were small scale, chosen and administered by the communities, and included a lot of water and sanitation projects. However, they also included a lot of productive projects such as community tractors, tube wells, manioc flour mills, and so on. The results were quite impressive. The social internal rate of return on the productive sub-projects was estimated at greater than 50 percent, the projects were financially sustainable, and they were a cost-effective method for increasing employment (the cost per job created was one-tenth the cost in the industry and services sector) (van Zyl et al., pp 21-24). Given this experience, the government should consider cautiously expanding this area of activity.

Part of the government strategy has to be indirect. The World Bank proposes as part of its strategy for the Northeast to revitalize commercial agriculture through investments in irrigation, rural infrastructure and export promotion. If successful that would increase employment opportunities for the unskilled, as well as generating more off-farm work in small towns that service the commercial farm sector. In addition, since much of the output of the commercial agriculture sector is exported, the government should make sure that its macro policies, particularly its exchange rate policy does not discriminate against exports. That means not permitting massive appreciations of the exchange rate when conditions turn favorable and there is a return of foreign capital to Brazil.

The essential strategy is to help the Northeast grow its way out of poverty. Although Brazil is quite a rich country, it is unlikely that it can afford to significantly raise taxes in the South and Southeast to subsidize an enlarged system of transfers to the Northeast unless those transfers have a significant investment component which promises to increase the growth rate

Consolidation and Targeting

During the 1990s, particularly under the two Cardoso administrations, a large number of programs whose objective was to help the poor were either established or expanded. We described a number of these programs in a previous section. No one knows how effective these programs have been, but there appears to be a fair amount of organizational confusion and overlap. For example, at least six different ministries have significant compensatory programs. The Ministry of Social Security (MPAS) distributes the rural pensions along with the rest of social security, while the newly formed Ministry of Assistance and Social Protection (MAPS) distributes the two safety net pensions for the aged and the disabled (BPC and RMV). The Ministry of Education is responsible for the Bolsa Escola, the Ministry of Health runs the Bolsa Alimentação and other nutrition programs, the Ministry of Labor manages several labor programs and the newly created Ministry of Hunger runs the new Fome Zero (Zero Hunger) program. Each of these programs has different eligibility criteria, different targeting mechanisms, and different ways of distributing benefits. Some sort of reorganization and consolidation seems to be called for.

If Brazil is going to continue with its large number of compensatory and means tested programs, like the BPC, the RMV, the Bolsa Escola and Bolsa Alimentação, it needs a more consistent and universal system for targeting. It has made an interesting start in this direction with the Cadastro Unico. The Cadastro is a list of eligible beneficiaries developed in connection with the implementation of the Bolsa Escola program in 2002. But it defines eligibility for only a small number of programs. Other programs have their own lists of beneficiaries. Consolidation is needed, but beyond that the key questions are how the list of eligible beneficiaries is constructed, how family conditions are verified and how the list is updated to reflect changes in conditions.

Brazil should consider adopting a targeting system similar to Chile's, which is based on a questionnaire (CAS) designed by the Central Government, but applied locally to determine eligibility to all its means-tested programs. Currently, in Chile the CAS-2 form filled out by

each applicant contains information on housing, consumer durables, education, number of family members, dependency ratio, health status, employment status, occupation, and income including all transfers. These variables are combined into a single poverty score using a set of variable weights derived from a principle components analysis applied to the CAS survey. After a home visit by the local authorities to verify questionnaire answers, families with a score less than some cutoff level are issued an identification card and are eligible for certain cash transfers or other subsidies.¹⁷

The Chilean system has three key features: first, it is universal and not geographically targeted to a particular region or sector. Second, it is demand driven, which means that it is up to potentially eligible beneficiaries to identify themselves and prove their eligibility; and third, it is used for most or all of the means tested programs of the central government of Chile. Presently in Brazil (at least in the Bolsa Escola program), local authorities select the eligible poor people in their districts. No one has evaluated how well that system works compared to alternatives, but Chile's system appears to be a very effective method for targeting. In 1998, Chile spent almost \$700 million dollars or about 1 percent of GDP on all the programs targeted with the Ficha CAS. A bit less than half of that amount went to the bottom 20 percent, and it increased the average income of that group by 84 percent (Morley and Coady, forthcoming). The SUF component of the safety net has an even better targeting profile. Almost 90 percent of the SUF benefits go to the bottom 40 percent of families. Chile's system has the ninth best targeting performance of all the safety net programs reviewed by Coady et al. (2003).

There are a number of advantages of a demand driven system for identifying the poor. One is that it introduces an element of self-selection into the process. Household heads, rather than a government official, decide whether or not to participate. This also represents a statement by the society that, while it is willing to help the poor by providing subsidies for education, housing, and nutrition subsidies, it is up to the individuals to take advantage of the help being offered. Another advantage is that it makes it quite easy to require revalidation of eligibility, which has been a problem in a number of targeted programs.

Education

All poverty reduction strategies call for increased investment in education and this one is no exception. The urgency of this step is implied by the high correlation between poverty and the educational level of the household head. Brazil has made very significant strides in recent years, yet the situation is still dire. In 1979, just under half of 15 to 24 year olds had 0 to 5 years of education in the urban sector. That percentage had dropped to 27 percent by 1999. In 1979, 87 percent of the same age group in the rural sector had less than five years of education. That percentage dropped to 63 percent in 1999. By 1999, 70 percent of the young adults in the urban sector and 90 percent of those in the countryside still had less than nine years of education (CEPAL, 2001, table 25). It is understandable that one would see only gradual improvement in the education level of the adult population since the recent and better

¹⁷ See Morley and Coady, (forthcoming) for a more complete discussion of targeting.

educated cohorts make up only a small part of the group. But the figures just cited are for those just finishing their education in the late 1990s. The education system is failing them—too many are dropping out before being equipped to participate in the modern economy. Brazil's education profile of 15 to 24 year olds is the worst in all Latin America.

Brazil increased its spending on education slightly between 1990, when 3.7 percent of GDP went to all levels of education and the current level of 3.9 percent. This rate of progress is not adequate. Brazil has a very large education deficit to make up and should be devoting at least 5 percent of GDP to education. When one sees that 11 percent of GDP is going to pensions and assistance, of which about 9 percent goes to the pensions in the formal sector and the government, one can understand why many Brazilians argue that the country has its priorities wrong. It should be spending more on educating the young and since the overall budget is so constrained, that means spending less on the aged.

The Employment Problem: Historically, Brazil used to be a relatively low unemployment country. If anything, there was an excess demand for skilled labor that drove up skill differentials. Unskilled labor could not afford to stay unemployed. All this has changed. Between 1996 and 1999 as the growth rate of the economy fell, unemployment in the 15 to 65 age group rose from 6.9 percent to 9.8 percent (Neri, 2001, p. 34). This rise in unemployment was concentrated in the modern sector in the large cities and among the relatively affluent (Neri, 2001, p. 43).

Another important change in the labor market in the 1990s is the increase in informality. About 55 percent of the adult labor force was in the formal sector and a part of the social security system in 1991. That percentage had dropped to 46 percent by 1998 (Dart, Neri and Menezes, 2002, see Table 2). There appear to be three reasons for this. First, of course, is the slow down in the overall growth rate of the economy, which has pushed workers into the informal sector. Two other factors involve the relative cost of labor. One is the shift of taxes onto labor and the other a set of several reforms mandated by the Constitution of 1988. The constitution reduced to 44 from 48 the number of hours of work required to receive overtime payments. The amounts of these payments themselves were increased from 120 percent to 159 percent of the workers regular wages. The new constitution also created a mandatory vacation bonus of one third of a workers monthly wage, increased maternity benefits, and significantly increased the firing costs for unjustified dismissals (Amadeo, Gill and Neri, 2002, p. 75). The total of all these add-ons now amount to 65 percent of the base salary (ibid., p. 79).

All of these were undoubtedly well-intentioned reforms. But they will not have the desired effect on worker welfare in a slow-growing economy and, in fact, may be one of the factors holding back the growth rate. Since most poverty reduction is going to come through increased labor earnings, it is crucial that Brazil find a way to create more good quality formal sector jobs. This is another reason why a more rapid overall growth rate must be a central part of the poverty reduction strategy. In addition, the government needs to attempt to hold down the overall tax burden and shift it away from labor, while changing the rules

determining the penalties for unjustified firing to increase the incentive for workers to voluntarily remain in their jobs.¹⁸

SECTION SIX: CONCLUSIONS

Brazil's record of poverty reduction in the 1990s is impressive. Despite very slow growth, it has reduced extreme poverty by 13 million of people and cut poverty by almost a quarter. Three factors were especially important to this performance. The first was controlling inflation. The experience of Brazil since 1980 provides strong evidence that inflation hurts the poor. Rising inflation coincided with a sharp increase in both poverty and inequality after 1987 and the end of inflation in mid-1994 coincided with a 25 percent reduction in poverty.

Complementary to this relationship between poverty and inflation is an apparent relationship between poverty and the minimum wage. Brazil provides fairly strong evidence that, under some circumstances, raising the minimum wage can reduce poverty. As we saw, the real value of the minimum wage was increased sharply after inflation was controlled in 1994 and that was followed almost immediately by a large reduction in poverty. We are unable to say whether that is due to the link between the minimum wage and wages for the unskilled in the formal and informal sector or whether it is due to the fact that benefits in many targeted safety net programs in Brazil are tied to the minimum wage. But it is quite clear that in Brazil the minimum wage is an important policy instrument in poverty reduction. There are two caveats here. First, the increase in the real minimum wage has to be sustainable. It cannot simply lead to an increase in other wages and prices. Second, the wage has to be at a level where increasing it does not push a significant number of workers out of the formal sector. Both of those conditions appear to have been met in Brazil in 1994-95.

The second factor responsible for reducing poverty was the non-contributory rural pension scheme that was implemented in the early 1990s. That program now spends about 1.2 percent of GDP and has had a big impact on poverty, particularly rural poverty. This program must be one of the main reasons why poverty rates fell in Brazil between 1990 and 1993, despite hyperinflation and falling per capita income. It shows that targeted safety net programs, if they are large enough can have significant impacts on poverty.

A large number of other targeted programs, which together amounted to approximately one percent of GDP, were also developed in the 1990s. The most important were two safety net programs, pensions for the aged and disabled, both linked to the minimum wage. While no one has estimated the impact of these programs on poverty, the fact that most of them were developed or expanded after 1995 (a period when poverty was falling despite various macroeconomic crises and recession) suggests that they must have had a positive impact.

¹⁸ One problem with the Brazilian unemployment insurance system is that each worker has a fund in his/her own name contributed by the employer to which the worker has access if fired. This gives him an incentive to force employers to fire him by performing badly. The penalty for firing only goes into effect after a probation period, which gives the employer an incentive to fire the employee before the end of the probation period. The entire system operates as a disincentive for the firm to invest in training of their labor force.

A cursory examination of social spending, rising interest rates, and falling investment seems to suggest that social spending may be hurting growth. Brazil is now spending over 20 percent of GDP just on social programs, 2.7 percent more than it spent in 1990. Even though the government has raised tax rates, social spending, the loss of inflation tax revenue, and rising interest costs have increased the government deficit, soaked up private saving, and crowded out investment. Social spending increases are partly to blame for the current fiscal disequilibrium. But for the most part targeted social spending is not the problem. Spending on contributory pensions (8.5 percent of GDP) and interest (4.2 percent of GDP) on the debt is.¹⁹ Brazil has a pressing need to control the cost of formal sector pensions and to reduce the interest cost of the government debt. If there is crowding out, those pension programs are more the cause of it than the poverty-targeted programs. The targeted programs have had a major positive impact on poverty at a cost of less than 2.5 percent of GDP.

Despite the progress on poverty that Brazil has made in the last decade, there are still a very large number of poor people in the country. To reduce poverty further, the most important single action the government could take would be to find a way to reach a higher and sustainable growth rate. We estimate that each one percentage point increase in the growth of income per capita will reduce the poverty population by at least 250,000 persons per year, while at the same time helping to alleviate both the employment and fiscal problems facing the country.

Beyond attaining higher growth, a number of things would help to make growth more favorable to the poor. Most of them depend on the specific characteristics of the poverty population in Brazil. Since 70 percent of the indigent and 55 percent of the poor live in the North and Northeast, it is clear that special attention has to be paid to this region, particularly its rural component. Programs should be centered on poverty-targeted investments that will help the poor and increase the growth rate at the same time. Given Brazil's fiscal problem, the Northeast will have to grow its way out of poverty rather than solving poverty temporarily through transfers. It can do this through investments in rural infrastructure and other activities that crowd in private investment. This should increase the growth rate of the region and provide employment that will, in turn, increase the income of the poor in the short run and raise their productivity in the long run.

Even more money and attention must be paid to education and health. Much has been accomplished in the 1990s, but Brazil (and particularly the Northeast) has one of the lowest completion and retention rates in the region. Some of the money saved by reform of the pension system should be devoted to education, particularly primary and secondary education.

Finally, given the skill level of the labor force and the high level of unemployment, priority should be given to investment projects such as roads, land reclamation, buildings, and irrigation all of which require a lot of unskilled labor in their construction. The government should also make sure that its policies do not harm small-scale agriculture because it, like construction, is a big user of unskilled labor.

¹⁹ For 2001.

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APPENDIX

Table A-1: Poverty Indigence and the Distribution of Income in Brazil 1977-2001

	households						Individuals CEPAL			Individuals			national (individuals) Paes de Barros			
	poverty			indigence			poverty			indigence			poverty	gap (P ₁)	indigence	Gini
	national	urban	rural	national	urban	rural	national	rural	urban	national	rural	urban				
1970	49	35	73	25	15	42										
1977													39.6	17.2	17	0.62
1978													42.6	21	21.8	0.60
1979	39	30	62	17	10	35							38.8	16.9	23.9	0.60
1980																
1981													43.2	19.5	18.8	0.59
1982													43.2	19.8	19.4	0.59
1983													51.1	24.5	25	0.60
1984													50.5	23.5	23.6	0.59
1985													43.6	19.7	19.3	0.60
1986													28.2	11.3	9.8	0.59
1987													40.9	18.7	18.5	0.60
1988													45.3	21.8	22.1	0.62
1989													42.9	20.6	20.7	0.64
1990	43	39	56	18	13	38	48	70.6	41.2	23.4	46.1	16.7	43.8	21.1	21.4	0.62
1991													42.3		20.3	
1992													40.8	19.7	19.3	0.58
1993							45.3	63	40.3	20.2	38.8	15	41.7	19.8	19.5	0.60
1994													37.8		17.1	
1995													33.9	15.3	14.6	0.60
1996							35.8	55.6	30.6	13.9	30.2	9.6	33.5	15.6	15	0.60
1997													33.9	15.4	14.8	0.60
1998													32.8	14.7	14.1	0.60
1999							37.5	55.3	32.9	12.9	27.1	9.3	34.1	15.4	14.5	0.60
2000							36.5									
2001							36.9									

Source: Paes de Barros, Ricardo, R. Henriques and R. Mendonca, (2000) p. 24. Note: values for 1991 and 1994 are from Paes de Barros and Corseuil, in Ganuza et al. The CEPAL figures are taken from various years of CEPAL, Panorama Social. Note that they are the percentage of households in poverty rather than the percentage of individuals.

The goal of the USAID-funded Pro-Poor Economic Growth Research Studies and Guidance Manual Activity is to identify and disseminate policies, reforms, and activities that USAID decision makers can incorporate into their programs and that they can recommend to countries wishing to pursue strongly pro-poor, poverty-reducing, economic growth objectives.

The findings, interpretations, and conclusions expressed in this paper are entirely those of the author. They do not necessarily represent the views of USAID.



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